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In the

Supreme Court of the United States

(OCTOBER TERM, 1946)

No. 24

HALLIBURTON OIL WELL CEMENTING COMPANY,
a Delaware corporation,
Petitioner,

VERSUS

CRANFORD P. WALKER and CRANFORD P. WALKER, D. A. WALKER, ROBERT P. MILLER and MILO C. KETCHUM
doing business as Depthograph Company,
a copartnership,
Respondents.

BRIEF FOR HALLIBURTON OIL WELL CEMENTING COMPANY, PETITIONER, ON REARGUMENT BEFORE A FULL BENCH

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August, 1946.

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BRIEF FOR HALLIBURTON OIL WELL CEMENTING COMPANY, PETITIONER, ON REARGUMENT BEFORE A FULL BENCH

STATEMENT OF THE CASE

This is a suit for patent infringement. Cranford P. Walker *et al.*, Respondents, brought suit against Halliburton Oil Well Cementing Company, Petitioner, in the United States District Court for the Southern District of California, Central Division, on three patents issued to Cranford P. Walker. Two of these patents were held invalid by the Circuit Court of Appeals for the Ninth Circuit. The third patent in suit, No. 2,156,519 (R. 587), was held valid and infringed. On October 15, 1945, certiorari was granted by this Court as to patent 2,156,519 only. On January 9,

1946, the cause was argued before this Court. On January 28, 1946, by an order *per curiam*, the judgment of the Ninth Circuit Court of Appeals was affirmed, this Court being equally divided. On February 25, 1946, a petition for rehearing brought by Petitioner was granted and the case was restored to the docket for reargument before a full bench.

Opinions Below

The District Court rendered no formal opinion, but the findings of fact and conclusions of law appear in the record (R. 28-32). The opinion of the Ninth Circuit Court of Appeals is reported at 146 Fed. (2d) 817 and is in the record (Vol. VI, R. 1594). The opinion *per curiam*, and the concurring opinion of Judge Denman, denying a petition for rehearing in the Circuit Court of Appeals on patent 2,156,519 are reported at 149 Fed. (2d) 896 and appear in the record (R. 1614).

Jurisdiction

The grounds for jurisdiction are:

1. The decree was rendered in a suit in equity brought under the Patent Statutes to determine the issues of validity and infringement of letters patent issued by virtue of Revised Statute No. 4886 (U. S. C., Title 35, Sec. 31).

2. The statute under which the jurisdiction of this Court is invoked is Sec. 240 (a) of the Judicial Code, 28 U. S. C. 347, as amended by the Act of February 13, 1925.

3. Cases which sustain the jurisdiction are:

—*United Carbon Co.* v. *Binney & Smith Co.*, 317 U. S. 228, 87 L. Ed. 232;

Schriber-Schroth Co. v. *Cleveland Trust Co.*, 311 U. S. 211, 217, 85 L. Ed. 132, 135;

Mackay Radio & Telegraph Co. v. *Radio Corp. of America*, 306 U. S. 86, 89, 83 L. Ed. 506, 508;

Exhibit Supply Co. v. *Ace Patents Corp.*, 315 U. S. 126, 128, 86 L. Ed. 736, 740;

Muncie Gear Works v. *Outboard M. & Mfg. Co.*, 315 U. S. 759, 766, 86 L. Ed. 1171, 1177.

Specification of Errors

The errors urged by Petitioner are that the Circuit Court of Appeals for the Ninth Circuit erred:

1. In affirming the decree of the District Court in holding Walker patent 2,156,519 to be valid and infringed by Petitioner;

2. In failing to reverse the decree of the District Court in holding the Walker patent 2,156,519 valid and infringed by Petitioner;

3. In holding Walker patent 2,156,519 to be valid;

4. In holding Walker patent 2,156,519 to have been infringed by Petitioner;

5. In failing to hold that the law established by the decision of this Court in *General Electric Co.* v. *Wabash Appliance Corp.*, 304 U. S. 364, 82 L. Ed. 1402, was controlling and dispositive of the litigation;

6. In failing to hold that the law established by the decision of this Court in *Schriber-Schroth Co.* v. *Cleveland Trust Co.*, 311 U. S. 211, 85 L. Ed. 132, was controlling and dispositive of the litigation;

7. In holding that claims 1, 13, 14, 15 and 17 of Walker patent 2,156,519 define the alleged improvement thereof with sufficient distinctness and clarity to comply with R. S. Sec. 4888 requiring a patentee to "particularly point out and distinctly claim the part, improvement, or combination which he claims as his invention or discovery;"

8. In holding that claims 1, 13, 14, 15 and 17 of Walker patent 2,156,519 cover the use of electrical apparatus not shown or described in the patent, after the Patent Office had refused to grant Walker a claim specific to such electrical apparatus in a copending application for patent.

Questions Presented

The questions presented by the petition are:

Question 1. Is the doctrine of the case of *General Electric Co.* v. *Wabash Appliance Corp.*, 304 U. S. 364, 82 L. Ed. 1402, condemning the use of indefinite and functional language at the exact point of novelty in a claim of a patent, applicable to a claim on a combination of elements, or should the doctrine be limited, as held (R. 1614, 1616) by the Ninth Circuit Court of Appeals, to a claim on a "single element" or "specific product"?

Question 2. Is the doctrine of the case of *Schriber-Schroth Co.* v. *Cleveland Trust Co.*, 311 U. S. 211, 85 L.

Ed. 132, precluding the giving of a claim of a patent such scope as will include within its terms subject matter rejected and cancelled while the application for patent was pending, applicable to a situation where an inventor files two applications on different species of his invention, the rejection and cancellation taking place in one and the claim in suit issuing in the other?

History of the Development of the Art

Patent 2,156,519 (R. 587) is concerned with the location of the level of fluid or an obstruction in a well, such as an oil well. The apparatus disclosed includes a cylinder of gas under pressure adapted to be connected to the casing of the well. A quick-opening valve is provided so that the gas may enter the well rapidly and create a pressure wave in the annular space between the casing and tubing in the well. A system for recording on a chart the time when the wave is initiated and the time when echoes return from obstructions in the well, serves as means to enable calculations to be made as to the depth to the obstructions.

The District Court found that patent 2,156,519 was an "improvement" patent (R. 28). Indeed, patent 2,156,519 itself acknowledges (R. 591, Col. 2, *l.* 14) the prior Patent No. 2,047,974 to Lehr and Wyatt, and states (R. 591, Col. 2, *ll.* 18-20) that it is an object of Walker's' invention to improve upon the method disclosed in the Lehr and Wyatt patent.

Even prior to Lehr and Wyatt, it had been proposed to time echoes to measure distance in tubing. As early as 1898, in the patent to Batcheller No. 602,422 (R. 1065), it had been proposed to locate obstructions in this way. A gun K was fired into a tube J and the echo was detected and recorded by mechanism H (shown in detail in figure 4 of the patent) such as that commonly used in those days to make phonograph records.* In figure 5 (R. 1068) of the Batcheller patent, n^1 indicates the record made at the time the gun was fired and n^2 the record made on the return of the echo. The time required for the echo being proportional to the distance the sound traveled, the location of the obstruction could be calculated.

The Union Oil Company was the first to propose the use of this kind of apparatus for locating fluid levels in oil wells. In 1927 an apparatus for this purpose was built (R. 506). A gun was used to make a sound and a record of the time required for the echo to come back from the fluid in the well was made with ordinary electrical equipment consisting of a microphone, an amplifier and a motion picture camera recorder (R. 506-511).

Sometime prior to November, 1933, the Shell Oil Com-

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*As shown in detail in figure 4 of the Batcheller patent (R. 1068):

"The sound-impluse-recording mechanism operates a light pivot-lever H, having at its end a stylus *h*. This lever, as shown, is pivoted to a frame H^2, supported on the standard E^2, the pivot being indicated at H^1, a light spring H^3 acting to press the lever H in one direction, as shown in Figs. 1 and 4, and an adjusting-screw H^8 being provided as an abutment to prevent the movement of the lever H against the spring beyond a definite point. The lever is actuated by a connection H^7, connected also to a diaphragm H^6, which is secured to a block H^4, hollowed out to form a chamber H^5, into which opens a passage h^4, or rather a tubular connection H^{11}, screwing into the passage h^4." (R. 1070).

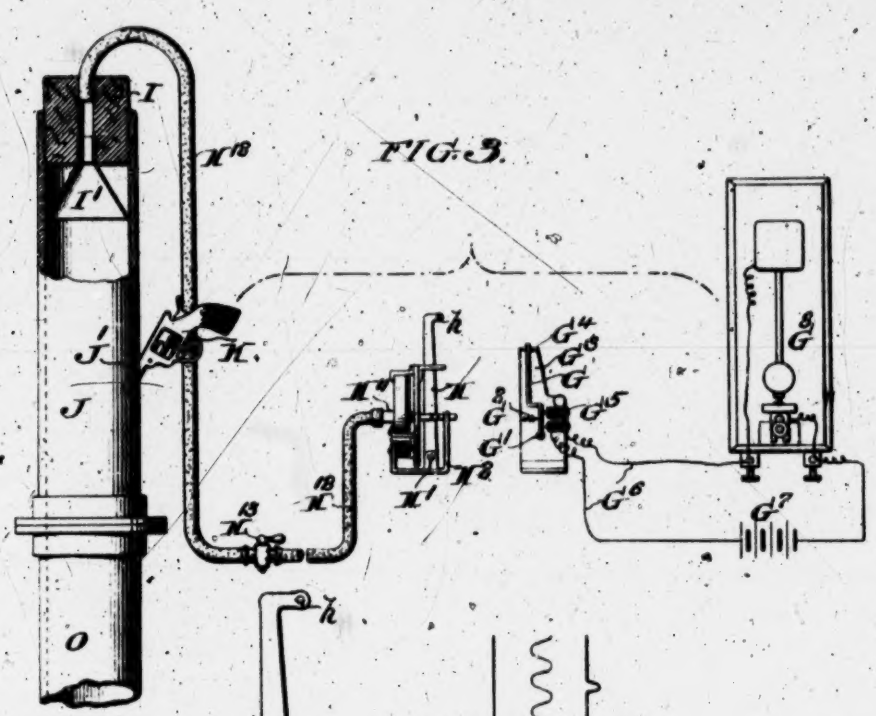
(No Model.) 2 Sheets—Sheet 2.

B. C. BATCHELLER.

APPARATUS FOR LOCATING OBSTRUCTIONS IN TUBES.

No. 602,422. Patented Apr. 19, 1898.

FIG. 3.


I
I'
J'
J
K
K'
K'
K'

pany decided to use echoes to determine fluid levels in wells (R. 245). Lehr and Wyatt were experienced oil men and employees of the Shell Oil Co. (R. 245, 250, 262). They had heard rumors about the work which had been done by the Union Oil Co. (R. 246, 247, 264). The Lehr & Wyatt patent 2,047,974 acknowledges (R. 1103, Col. 1, *ll.* 10-27) prior attempts to measure depths of wells with sound waves. Lehr and Wyatt experimented with a gun and other sound producing devices (R. 264, 265), but they decided to use a pressure chamber instead of a gun for creating a pressure impulse. Lehr testified that a .38 caliber gun did not have enough energy to produce satisfactory results (R. 265, 266) and his patent states that the "sound method" is more or less unreliable (R. 1103, Col. 1, *ll.* 41-42). A gun causes a "pressure impulse" as well as a sound (R. 336), but if gas is compressed in a cylinder and then liberated into the well through a quick-opening valve, the pressure impulse is much greater. "Compared with an impulse chamber, three pounds pressure * * * gave much more of a return than a .38 cartridge." (Lehr, R. 265, 266). The Lehr and Wyatt patent suggests that the pressure in the chamber be 100 pounds per square inch (R. 1104, Col. 1, *l.* 40). The pressure impulse chamber is shown at 4 in the drawing (R. 1102) of the Lehr and Wyatt patent. When the valve 6 is opened, gas is admitted into the annular space between the tubing 8 and the casing 14 of an oil well and creates a pressure impulse therein. Ths pressure impulse, traveling at the same speed as that of sound (R. 338), goes down the well and echoes back. By observing the elapsed time for this impulse to traverse

the space from the well head to an obstruction or liquid level in the well and return, the depth of the obstruction or liquid level can be determined.

The Lehr and Wyatt patent states (R. 1104, Col. 1, *ll.* 3, 4) that the elapsed time may be observed or indicated in any desired manner. As disclosed in Fig. 2. (R. 1102) one apparatus for making this observation is an ordinary microphone 15, provided with a suitable electrical amplifier 18 and a recorder 16. The recorder may be of a known type, in which a pen or pencil 21 runs on a recording drum 23 and is controlled by the circuit 17 from the microphone and amplifier. With such a device a record is made when the valve is opened to let the pressure impulse into the well and also when the echo returns from an obstruction in the well.

It is inherent in the Lehr and Wyatt device that if a partial obstruction in the well sends back an echo, that also will be recorded. Experiments conducted by experts in this art show that apparatus constructed in accordance with Figure 2 of the Lehr and Wyatt patent is operative to record a fluid level in a well and also to record the level of other obstructions or partial obstructions, such as a tubing catcher or collars on tubing in the well. See Exhibits F, G, H and I (R. 885-889) for actual recordings and see testimony thereon (R. 292, 293, 416-434).

The Novelty in the Patent in Suit

Thus the art was quite well developed by the time Walker entered the field. Walker was not a pioneer. As a

y 21, 1936. P. E. LEHR ET AL 2,047,974

METHOD AND APPARATUS FOR MEASURING WELL DEPTHS

Filed Nov. 1, 1933

Fig. 1

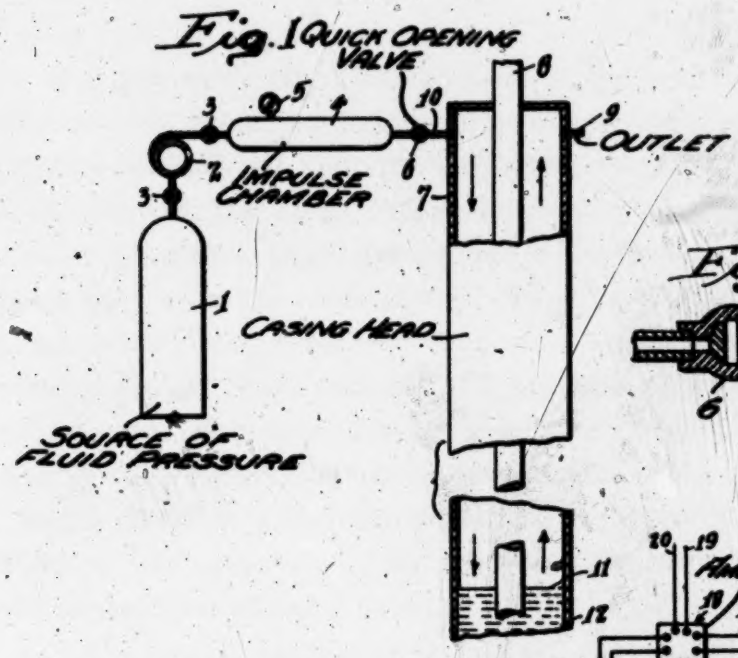


Fig. 4

Fig. 2

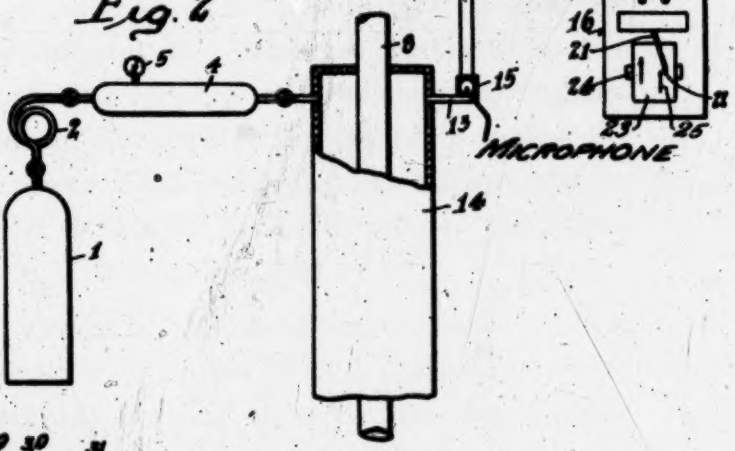
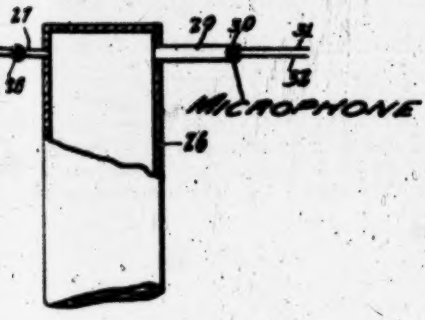


Fig. 3



Inventors

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Attorneys

matter of fact, he became interested in this art as the result of a demonstration to him by Lehr of the pressure impulse method of locating fluid level on one of the Shell Oil Company wells at Ventura, California, in October, 1935 (R. 154, 155, 514, 515). Walker adopted Lehr's pressure chamber with a quick-opening valve for creating a pressure impulse in the well. Instead of Lehr's electrical recorder, he adopted a mechanical one using a diaphragm like that of the Batcheller patent 602,422 (R. 1068). Insofar as this case is concerned, admittedly there was no invention in making this change. Walker's improvement, found by the courts below to constitute invention, resides in the addition to this apparatus of an acoustical resonator to accent echoes from tubing collars.

In the drawing of the Walker patent in suit (R. 588), the pressure impulse chamber is shown at 12, and the quick-opening valve at 16. These are connected to the well casing 4 by the coupling 19. The pressure impulse and its echoes are conveyed to the recording system by the pipe 18. The recording system includes a diaphragm 23 and a mirror 26, so that by the light beam 37 the pulses are recorded on a photographic film 39.*

Walker's system differs from the recorders of the prior art in the use of a pipe 18 of a particular length. There being nothing electrical about his recording system, Walker could not use an electrical amplifier such as that

*The use of a light beam and photosensitive film was old. See the patent to Taylor (R. 1096). In the Taylor patent, movement of the mirror 11 is recorded on the film 2. Light from the lamp 12 is directed upon the mirror 11 and then through the optical system in the tube 5 to expose the film 2. (See specification R. 1097).

disclosed in the Lehr and Wyatt patent, to increase the intensity of returning signals, so he used an acoustical tuned resonator to amplify the echoes. The pipe 18, adjustable in length by the coupling 19, serves this purpose. The pipe 18 connects the housing for the pressure responsive diaphragm 23 to the well casing. The pipe can be "tuned" by adjusting its length to cause it to respond particularly to echoes from tubing collars. These echoes are then said to be "amplified," while echoes from other obstructions or partial obstructions are "damped out" (R. 595, Col. 1, *ll.* 48-71). The only novel element in the claims here in suit is the adjustable mechanical tuning pipe 18.* Both lower courts found the novelty in the patent to reside in the addition of this element to the Lehr and Wyatt system (R. 29, 1599, 1600). The District Court called it a "tuned acoustical resonator" (R. 29) and the Circuit Court of Appeals called it an "adjustable tuning pipe" (R. 1598).

While new in a device for recording echoes in wells, an adjustable pipe is not a novel means for causing a sound recorder to respond particularly to a certain frequency. In Fig. 17 of the patent to Tucker No. 1,451,356 (R, 1080), granted August 31, 1920, such a device is shown associated with a microphone connected to a system which may be recording.†

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*On the attached drawing of the patent in suit, we have circled the reference numeral 18 for emphasis, since the alleged invention resides in the use of this adjustable pipe.

†The Tucker patent shows only an indicator such as a bell F or lamp H, but on page 4 of the patent (R. 1086 *ll.* 18-20) it is stated that "it may be understood that any other indicating or recording device may be used instead."

May 2, 1939. C. P. WALKER 2,156,519

MEANS FOR MEASURING THE LOCATION OF OBSTRUCTIONS IN WELLS

Filed Sept. 7, 1937 2 Sheets-Sheet 1

FIG. 1.

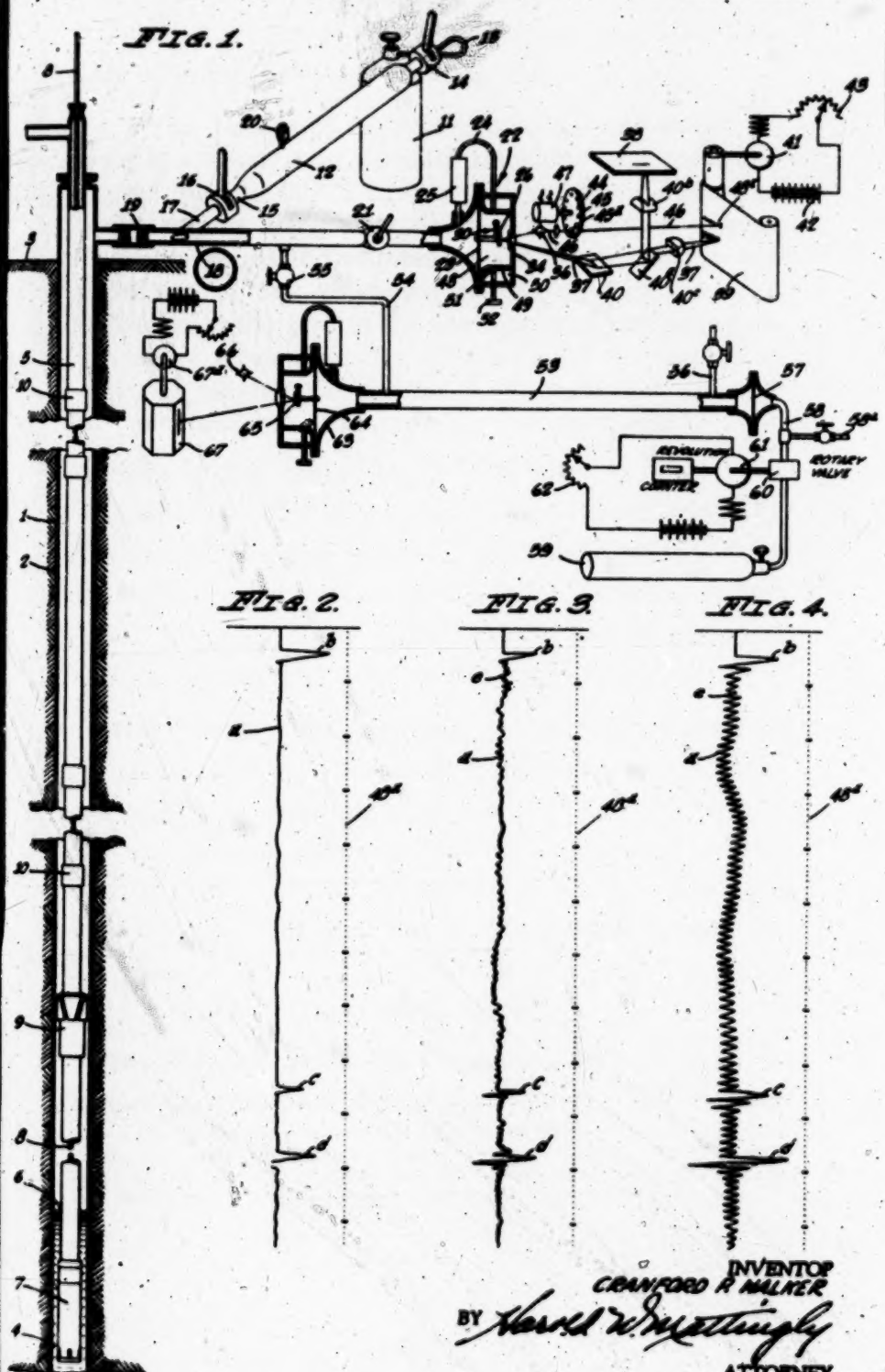

FIG. 2.

FIG. 3.

FIG. 4.

INVENTOR
CRAWFORD P. WALKER
BY Harold W. Mattingly
ATTORNEY.

A tuned acoustical resonator was not even new with Tucker. His patent states (R. 1085, Col. 1, *ll.* 47-58):

> "The tuning of each combined unit of sound detecting device and acoustic resonator to a particular pitch may be either fixed or adjustable; in either case the tuning being attained in a well known manner by the proper adjustment of the shape, length, and volume of the resonating chamber, or of the aperture near the grid of the thermic sound detecting device, or otherwise. Fig. 17 illustrates the method of tuning wherein the volume of the resonating chamber 1 is varied by a telescopic sliding movement."

Both of the lower courts have held, in effect, that invention is involved in making a better sound record by selecting the recording system of the Tucker patent, which has an acoustical resonator, for use in the recording system of the Lehr and Wyatt patent, which has an electrical amplifier but does not have an acoustical resonator.*

The invention has been held by the Circuit Court of Appeals to be of such a pioneer nature as to cover much more than this selection, however. It has been held to cover an electrical recording system not disclosed or even hinted at in the patent. Petitioner's device has been held to infringe even though it has no acoustical resonator.

The Accused Device

In 1936, the Union Oil Company asked Dr. John J. Jakosky to develop the device that company had first ex-

*In *Altoona Pub. Theatres* v. *Am. Tri-Ergon Corp.*, 294 U. S. 477, 486, 79 L. Ed. 1005, 1011, it was held that selection of elements from the prior art to make a better sound record did not involve invention.

perimented with in 1927 (R. 490, 491). The outcome was the apparatus known as the "Echo-Meter" (R. 491). Jakosky organized a company, International Geophysics, Inc., and for a time it provided the Echo-Meter service to the oil fields (R. 300). In May, 1940, the Petitioner, Halliburton Oil Well Cementing Company, purchased the business of International Geophysics, Inc., and rights under such patents as might issue on the Echo-Meter (R. 708).

In developing the Echo-Meter, Jakosky selected only devices known in the prior art.* He employed neither the Lehr and Wyatt system nor the Walker improvements thereon. He used a gun to create a sound, whereas Lehr and Wyatt and also Walker had used a pressure impulse chamber; and he used a microphone, electrical amplifier and recorder to record the shot and echoes, whereas Walker had used a diaphragm recorder. A Tucker microphone was selected as one particularly suitable for recording gun shots. It consists merely of a grid of fine wire heated electrically, the wire being of such nature that its resistance varies greatly with temperature (R. 288, 289). A puff of air through the grid in either direction cools it and changes the resistance in proportion to the velocity of the air

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* Jakosky had the right to work out another system for locating fluid levels by the use of echoes.

"All others have an equal right to make improved machines, provided they do not embody the same or substantially the same devices or combination of devices, which constitute the peculiar characteristic of the previous invention. * * *

"But it has been argued, that though not a colorable *invasion* of the patentee's claim, it is an *evasion* of his patent, which is equally injurious. If so, it is *'damnum absque injuria.'* Every man has a right to make an improvement in a machine, and evade a previous patent, provided he does not invade the rights of the patentee." *Burr* v. *Duryee*, 68 U. S. 531, 17 L. Ed. 650, 658, 659.

W. S. TUCKER.
SOUND DETECTING DEVICE.
APPLICATION FILED JAN. 6, 1919.

,351,356.

Patented Aug. 31, 1920.
4 SHEETS—SHEET 2.

Fig.3.

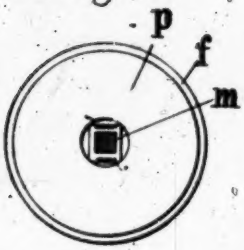


Fig.4.

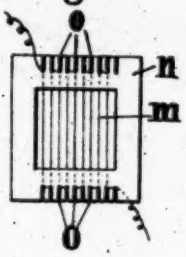
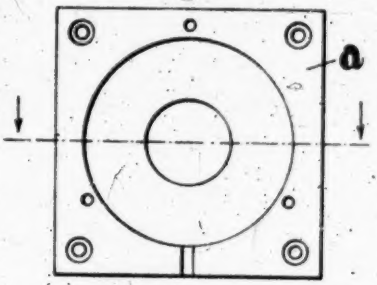


Fig.7.



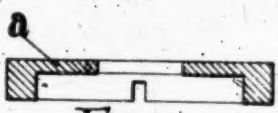


Fig.8.

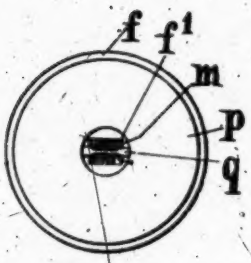


Fig.5.

Fig.6.

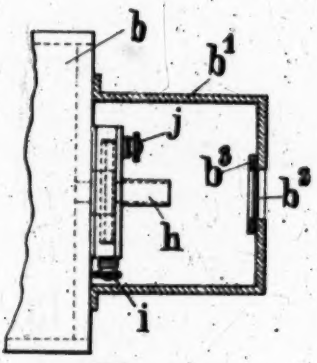


Fig.11.

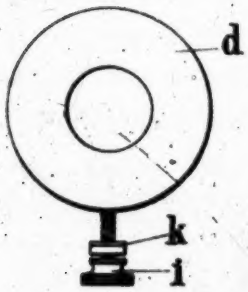


Fig.9.

Fig.10.

Inventor
W. S. Tucker
By L. R. Kerslake
Atty

(R. 289). By recording the resistance of the grid, a record of air movement is obtained (R. 289).

This microphone with an amplifier and a recorder was known (R. 392). It is described in U. S. Patent 1,351,356 to Tucker (R. 1077), granted August 31, 1920, for "Sound Detecting Device." Figure 4 of this prior patent shows the fine wire *m* wound on a frame *n*. Figure 3 shows this assembly mounted on a disc *f*, which has a central hole to allow a current of air to cool the wire *m*. This microphone was used as described by Tucker in a paper (R. 926), published January 5, 1923, before the Royal Society of Arts in London, entitled "The Hot Wire Microphone and Its Application to Problems of Sound." Tucker was a major in the British Army and designed this microphone in 1918 to locate enemy gun positions (R. 387, 388, 926).

The Echo-Meter consists essentially of a gun using a .38 caliber blank revolver cartridge or a 10-gauge blank shotgun shell (R. 288) mounted to discharge into a pipe connected to an oil well, and a Tucker hot-wire microphone to receive the gun shot and the echoes, the microphone being connected through a suitable amplifier, such as is commonly used in the radio art, to a recorder for making a record on a tape.* The technique and operation of the recording system are about the same as used by Tucker, except that Tucker used an acoustical resonator whereas the Echo-Meter does not. Some of Tucker's graphs

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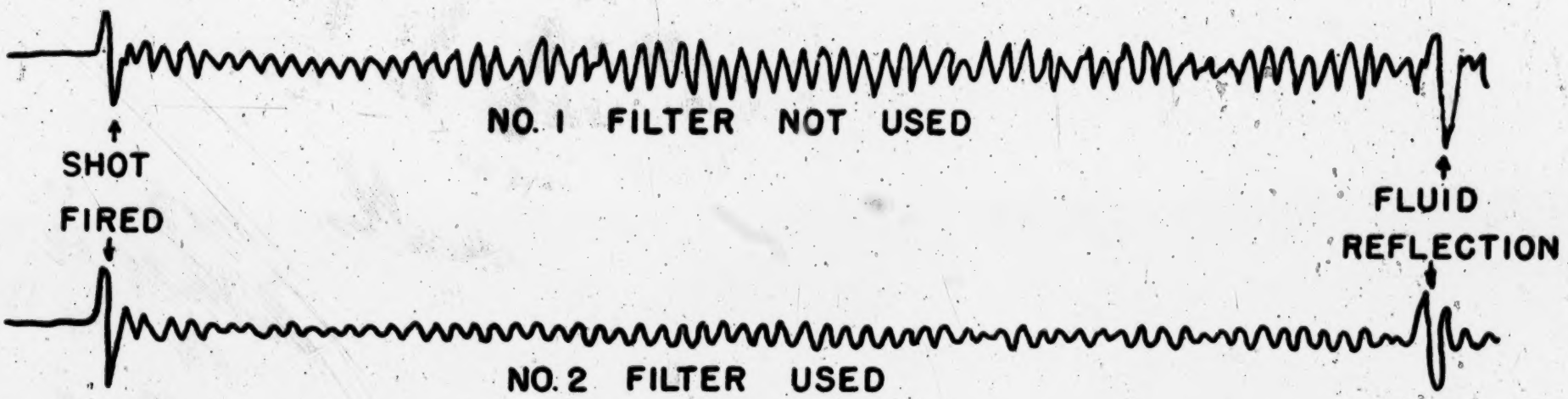
*The Echo-Meter is more fully described in the Field Manual (Ex. 11-C, R. 719). Exhibits 12-B, 12-C and 12-D (R. 755-757) are photographs of Petitioner's device which was brought into court. The methods used in operating it are described by Cornes (R. 273 *et seq.*) See also Answers to Interrogatories (Exhibits 10, 11 and 12, R. 646, *et seq.*), particularly the Answer to Interrogatory 14, R. 653, and Exhibit 10-A, R. 773.

appear in the Royal Society of Arts paper mentioned above (R. 927, 928, 930, 931). Commercial graphs made by Petitioner in the presence of Respondents (R. 280), are found in Exhibit D. (R. 884). A graph made in court (R. 278) with a piece of hose simulating an oil well is found in Exhibit C (R. 883).

The Echo-Meter is used to locate obstructions and fluid levels in wells (R. 624). The graphs obtained show echoes from tubing collars, tubing catchers or other obstructions (R. 282, 285, 311, 313, 649). If the distance between tubing collars is known, or if the position of the tubing catcher is known, a comparison of distances on the graph of echoes from these known obstructions with the echo from the fluid level affords a basis for computing the distance to the unknown fluid level (R. 286, 287).

In the amplifier circuit between the microphone and the recorder, the Echo-Meter is provided with an electrical filter which is used occasionally (R. 277, 314, 650, 651) to make the records more clear by excluding extraneous noise (R. 313-315, 650), but tubing collar echoes are recorded whether the filter is used or not. (Compare graph No. 1 at the top of Exhibit D, R. 884, where the filter was not used, with graph No. 2 of Exhibit D, where it was used and properly adjusted, and see testimony on Exhibit D, R. 282, 286, 287). When the electrical filter is not used, Respondents admit (R. 57, 58, 533-537) that Petitioner's Echo-Meter does not infringe patent 2,156,519, but Respondents contend (R. 534), and the lower courts found (R. 30, 31, 1603), that infringement exists when the electrical filter is used.



Tracings of Graphs 1 and 2 of Exhibit D, Made with Petitioner's Echo-Meter. (See R. 884 for Actual Exhibit D.)

Both of the above are retracings, for illustration in this brief, of commercial graphs obtained on an oil well in California with Petitioner's Echo-Meter on September 29, 1942. Respondent C. P. Walker was present when the graphs were made. A 10-gauge blank shotgun shell was used in making each, and one was made immediately after the other. In making graph No. 1, the filter was entirely disconnected. In making graph No. 2 the filter was used and properly adjusted. On each graph, the large waves show when the shots were fired and when the echoes from the fluid returned. The small waves about one-eighth of an inch long and of varying heights are recordings of echoes from collars on the tubing in the well. Tubing collar echoes were recorded whether the filter was used or not, but the filter eliminated extraneous noises. The recording system used to make graph No. 1 was the same as that of the prior Lehr *et al.* patent 2,047,974 (R. 1101). This graph is as much like figure 4 of patent 2,156,519 (see R. 588 or page 15 of this brief) as graph No. 2. The courts below have held that the apparatus used to make graph No. 2 infringes the Walker patent, while apparatus old in the prior art, used to make graph No. 1, does not anticipate the Walker patent.

Petitioner is free to make graphs like No. 1 of Exhibit D but has been held to infringe when a graph like No. 2 of exhibit D is made.

Petitioner is not charged with infringement because its Echo-Meter records echoes from tubing collars. The apparatus of the prior Lehr patent was inherently capable of recording echoes from such collars (R. 292, 293, 416-434) and it cannot be said that Walker invented apparatus for doing that. What is claimed is that Walker invented an acoustical resonator for tuning his receiver to accent tubing collar echoes, and that the electrical filter in Petitioner's Echo-Meter is the equivalent of an acoustical resonator.

A filter in an amplifying circuit is a common electrical expedient (R. 399, 651). It is an electrical device which controls the response of an amplifier (R. 350, 351) to eliminate extraneous noises. The filter contains resistance (R. 350) adjustable to reduce the gain in the amplifier of certain unwanted frequencies (R. 351, 363, 456). (See circuit diagram R. 734.)

Although the lower courts have held (R. 30, 1603) that a filter is the equivalent of an acoustical tuned resonator, there is no evidence whatever in the record supporting this holding. The uncontradicted expert testimony is that a filter is not even an electrical tuning device (R. 351, 356, 357). But electrical tuning devices are also old in the art. In fact, they are much older than filters (R. 352). In *Marconi Wireless Telegraph Co.* v. *United States*, 320 U. S. 1, 17, 30; 87 L. Ed. 1731, 1741, 1748, this Court found that electrical tuning devices were old in 1902. Filters were

not developed until about 1916, but they had become quite common long prior to Walker (R. 352).*

Filters had commonly been used in connection with amplifiers in electrical sound detecting systems. The patent to Williams No. 1,671,262 (R. 1089), granted May 29, 1928, shows a filter at 50 (R. 1090). The Williams patent states (R. 1092, *ll.* 21-25) that:

> "The present system while sensitive to very weak noises and signals is practically free from disturbances of the former, after the signals have been filtered and amplified."

Walker testified (R. 156) that in 1935 he decided to "take on the job of developing apparatus for the practice of the Lehr and Wyatt method."

He investigated "devices on the market, microphones, amplifiers and electrical recording devices" (R. 156, 157).

The amplifier he purchased had a filter built into it. Walker testified:

> A. "The amplifier that I used in making the records that have been submitted in evidence had a filter on it, a tone control, it is called in the ordinary

---

*Dr. Mackeown testified:

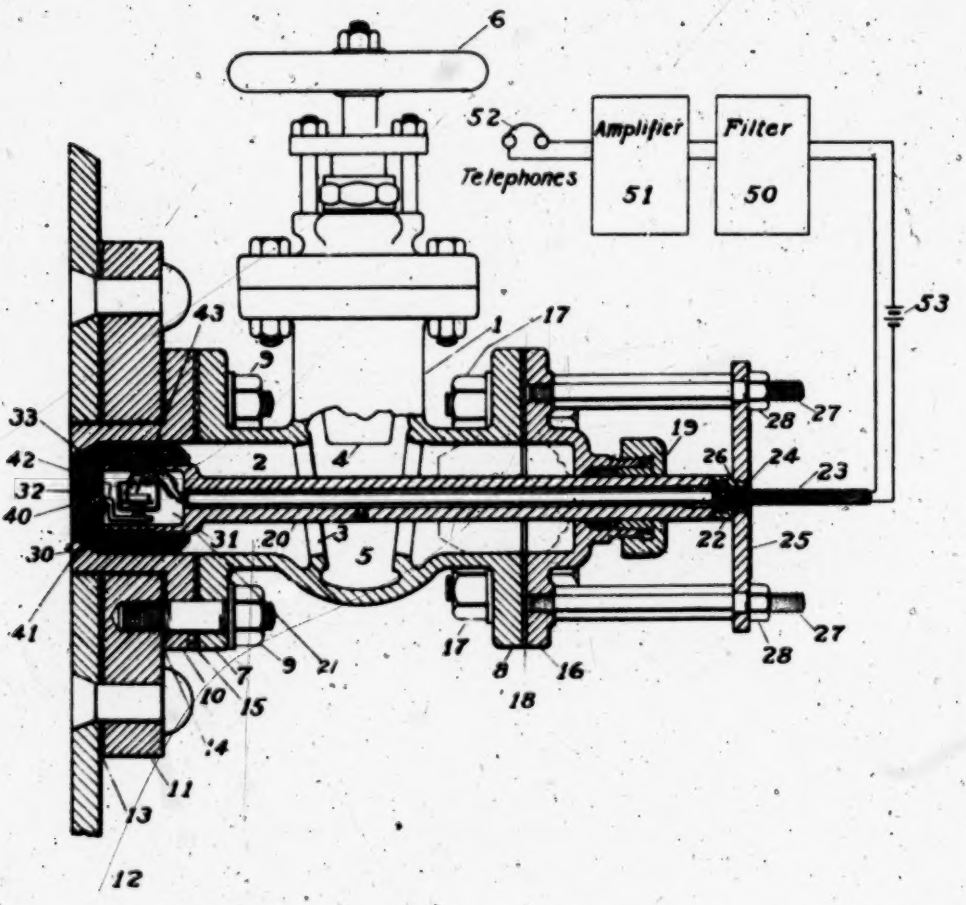
"Resonant circuits are extremely old. The theory was first worked out by Lord Kelvin about 1850. A filter circuit is relatively new, and was first worked out by Dr. Campbell of the Bell Telephone Laboratories in 1916. They have been used very extensively by the Bell Telephone Company and make possible a communication of ten or twenty telephone communications over two wires, so that each party can communicate, and not be heard by the rest. That is entirely done by a filter. They are entirely different from the resonant or tuned circuits, which cannot be operated that way." (R. 352).

May 29, 1928. 1,671,262

R. L. WILLIAMS.

SUBMARINE SOUND RECEPTION

Filed April 2, 1925



INVENTOR.
ROBERT L. WILLIAMS
BY Ezekiel Wolf
ATTORNEY

radio outfit. This was used, I understand it, for recording heart beats and had a filter on it which I used in my experiments, but it did not have much effect.

Q. What date are you referring to?

A. I am referring to experiments in the early part of November.

Q. What year?

A. 1935; November 13th to along towards the latter part of the month.

Q. That apparatus, was that an apparatus that had a microphone and an oscillograph in this recording circuit with the amplifier?

A. That is correct." (R. 516).

Anyone skilled in the art, in attempting to build apparatus in accordance with figure 2 of the Lehr and Wyatt patent would just as naturally have selected such an amplifier. The Lehr and Wyatt patent states that an amplifier may be used. It does not specify what kind of amplifier, but one skilled in the art would certainly know enough to purchase an amplifier "on the market," and one which had "a filter on it, a tone control, it is called in the ordinary radio outfit."

We submit that the Lehr and Wyatt patent *per se* teaches the use of a filter in the amplifier of an electrical recording system. If this patent alone is not sufficient to teach this, then the other prior art, such as the Williams patent, shows there is no invention in such use. If the claims of the Walker patent in suit are so broad as to cover

such use, they should be declared invalid. As will be shown presently, the Examiner in the Patent Office in charge of the art of Electric Signaling, refused to grant claims to Walker on exactly this combination.

Analysis of the Claims in Suit

Claims 1, 13, 14, 15 and 17 (R. 596-598) of patent 2,156,519 are in suit. These are copied here with the clauses directed to the allegedly novel element placed in italics:

"1. In an apparatus for determining the location of an obstruction in a well having therein a string of assembled tubing sections interconnected with each other by coupling collars, means communicating with said well for creating a pressure impulse in said well, echo receiving means including a pressure responsive device exposed to said well for receiving pressure impulses from the well and for measuring the lapse of time between the creation of the impulse and the arrival at said receiving means of the echo from said obstruction, and *means associated with said pressure responsive device for tuning said receiving means to the frequency of eehoes from the tubing collars of said tubing sections to clearly distinguish the echoes from said couplings from each other.*

* * * * * * * * * * *

"13. In an apparatus for determining the unknown location of an obstruction in a well having a string of assembled tubing sections therein connected by couplings, means communicating with said well for creating a pressure impulse in said well to produce echoes of said impulse from the couplings and other obstructions in said well, echo receiving and registering means coupled to said well to expose said re-

ceiving and registering means to pressure variations produced in said well by echoes from said obstructions, and *means associated with said receiving and registering means to accent the registration of tubing coupling echoes.*

"14. In an apparatus for determining the unknown location of an obstruction in a well having a string of assembled tubing sections therein connected by couplings, means communicating with said well for creating a pressure impulse in said well to produce echoes of said impulse from couplings and other obstructions in said well, pressure responsive echo receiving and registering means coupled to said well to expose said receiving and registering means to pressure variations in said well produced by echoes from said obstructions, and *interference eliminating means associated with said receiving and registering means for limiting the response of said receiving and registering means to the registration of echoes from actual obstructions in the well whereby the registered echoes of the tubing couplings may be readily distinguished from each other and from the echoes from other actual obstructions in the well.*

"15. In an apparatus for determining the unknown location of an obstruction in a well having a string of assembled tubing sections therein connected by couplings, means communicating with said well for creating a pressure impulse in said well to produce echoes of said impulse from the couplings and other obstructions in said well, pressure responsive echo receiving and registering means coupled to said well to expose said receiving and registering means to the pressure variations produced in said well by echoes from said obstructions, and *resonance means associated with said receiving and registering means to produce therein a natural acoustical period of oscilla-*

tion so related to the frequency of the echoes from the tubing couplings as to accent the registration of the tubing coupling echoes.

"17. In an apparatus for determining the unknown location of an obstruction in a well having a string of assembled tubing sections therein connected by couplings, means communicating with said well for creating therein a pressure impulse to produce echoes of said impulse from the couplings and other obstructions in said well, *pressure responsive echo receiving and registering means having a natural frequency of oscillation so related to the frequency of the echoes from said tubing couplings as to accent the registration of said echoes,* and means interconnecting said receiving and registering means to said well to expose said receiving and registering means to pressure variations in said well."

These claims use different language, but all are similar in construction, so only claim 1 will be analyzed specifically. In the introductory part, this claim calls for apparatus for determining the location of an obstruction in a well having a string of assembled tubing sections therein interconnected with each other by coupling collars. The Lehr and Wyatt patent (R. 1101) shows an oil well with tubing 8 therein. The Lehr and Wyatt device was used in wells having tubing therein and the tubing had collars (R. 271). Therefore, there is no novelty defined in this part of the claim. The claim then calls for "means for creating a pressure impulse in the well." This is the same device as that of the Lehr and Wyatt patent—a pres-

sure impulse chamber and valve.* The claim further calls for "echo receiving means including a pressure responsive devise exposed to said well for receiving pressure impulses from the well." The pressure responsive device is the diaphragm 23 and associated parts. There is no diaphragm in the Lehr and Wyatt patent, but there is no invention in its use instead of a microphone, because Batcheller (R. 1065) shows a diaphragm.†

The final clause of the claim defines the only element alleged to be novel, and the only element found by the courts below to be novel (R. 29, 1599, 1600). It calls for "means associated with said pressure responsive device for tuning said receiving means to the frequency of echoes from the tubing collars." *The entire novelty of the alleged invention is defined simply as "means" for accomplishing the desired function.* What this "means" is, how it operates, or how it co-operates with the other parts of the apparatus is not defined. Walker has added a resonance pipe to the Lehr and Wyatt system, but he seeks a monopoly on all means for tuning a receiver in such system.

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*The patent seems to exclude the use of a gun by calling for an arrangement by which pressure pulses can be adjusted and by making a distinction between sound methods and pressure impulse methods. See testimony of Dr. Mackeown (R. 470-471). In setting forth the objects of the invention (R. 591), a careful distinction is made in the patent between the use of low energy sound waves and high intensity impulses produced by the Lehr and Wyatt pressure chamber. Respondents should not now be permitted to turn around and say that the use of sound waves as taught by Batcheller is an infringement of the claims. *Weber Electric Co.* v. *Freeman Electric Co.*, 256 U. S. 668, 65 L. Ed. 1162. Such expansion of claims is "an evasion of the law." *White* v. *Dunbar*, 119 U. S. 47, 30 L. Ed. 303, 305.

†If the claim is interpreted to limit this phrase to definition of a diaphragm, together with the particular mounting for the diaphragm as we think was intended by Walker when it was drawn, then clearly there is no infringement, for Petitioner, like Lehr and Wyatt, uses a microphone.

The other claims in suit use the same kind of language to define the alleged novelty. The clause of claim 13 (R. 597) which is supposed to define invention over the Lehr and Wyatt patent reads, "means associated with said receiving and registering means to accent the registration of tubing coupling echoes." The word "accent" does not even appear in the specification. Claim 14 (R. 598) defines the allegedly novel structure as "interference eliminating means." This phrase does not appear in the specification. The claim recites that this "means" is to limit the response of the receiver to echoes from "actual" obstructions. The significance of the word "actual" is not explained in the specification. The claim does not define structure for eliminating the recording of all other than actual obstructions. It merely calls for "means" for doing so. Likewise, claim 15 (R. 598) defines the alleged novelty over Lehr and Wyatt as "resonance means * * * to produce therein a natural acoustical period of oscillation," and claim 17 (R. 598) calls for "means having a natural frequency of oscillation * * * to accent" echoes from "couplings and other obstructions." The word "resonance" does not appear anywhere in the specification, nor does the phrase "natural acoustical period of oscillation."

All of these phrases refer to the pipe 13 of adjustable length connecting the receiver to the well casing. There is no basis for assuming that in drawing these claims, Walker intended to cover the use of an electrical filter in the Lehr & Wyatt recorder or that the Patent Office intended to grant Walker a monopoly on such use. Claim 15 of patent 2,156,519 (R. 598), for example, shows that there was no such intention. The claim employs both

the word "resonance" and the word "acoustical" to describe the "means." The word "resonance," while used in electricity to define intensification of a particular frequency, is more commonly used to define intensification of sound. The word "acoustical" is not an electrical term at all.* Acoustics is the "science of sound, including its production, transmission and effects." (*Webster's New International Dictionary*, 2nd Ed., 1938).

The phrases used in the claims do not define the electrical filter used in Petitioner's Echo-Meter. Dr. Mackeown, professor of electrical engineering in the California Institute of Technology and in charge of the work there in radio, sound recording, electronics, etc. (R. 327), testified that an electrical filter is not a tuning device (R. 446, 447), is not resonant, even electrically (R. 362, 363, 364, 446), does not have a "natural frequency of oscillation" (R. 362, 457, 458) and does not amplify (R. 363, 364). It does not operate on the same principle as an electrical tuning device (R. 363, 364) and has nothing in common with a tuned pipe (R. 350, 353, 356). There is not one word of testimony anywhere in the record in contradiction of Dr. Mackeown's statements; nor is there one word of testimony anywhere in the record in contradiction of his testimony that an electrical filter has an entirely different mode of operation than an acoustically tuned pipe (R. 356). The Circuit Court of Appeals, in holding (R. 1603) that an acoustically tuned pipe is the equivalent of an electrical filter, quoted (R. 1603) state-

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*"The Court: When you say 'experimenting with acoustical tuning,' you mean mechanical tuning? A. Mechanical tuning, that's right, your Honor."—Walker (R. 517).

ments of a Patent Office Examiner. We submit that consideration of an Examiner's statements for this purpose is improper. Proceedings in the Patent Office cannot properly be used to expand the claims of a patent. They can be used only to limit the claims. *Dwight & Lloyd Sintering Co.* v. *Greenawalt*, 27 Fed. (2d) 823, 832, (C. C. A. 2).

Moreover, the quoted statements of the Examiner were made in a different application, Serial No. 164,534 (Exhibit L. R. 953), after patent 2,156,519 had issued. Patent 2,156,519 issued May 2, 1939. The statements of the Examiner (R. 1046-1047, 1060), quoted (R. 1603) in the Court's opinion, were made March 29, 1941 (R. 1045), and April 11, 1942 (R. 1059). Neither statement was made by the Examiner who issued patent 2,156,519, nor by an Examiner skilled in the same art. The complaint in this suit was filed July 16, 1941 (R. 6). Thus the main statement as to equivalency was made after this suit had been filed. Counsel for Respondent had practically insisted that the Examiner make such a statement (See, for example, Walker's "Request for Further Explanation" of April 6, 1942, R. 1058, 1059). After patent 2,156,519 had issued, statements by an Examiner in another art and in another case are extrinsic and irrelevant on the question of the scope of the claims. Petitioner had no chance to cross-examine the Examiner as to these statements. They are not sworn testimony and cannot properly be used to rebut the sworn testimony in this record. The statements were not made as an interpretation of the claims here in suit, but were made as an additional ground for refusing claims in application Seriol No. 164,534.

The Examiner did not state that an electrical filter is the equivalent of an acoustical tuned resonator. The state-

ments of the Examiner quoted by the Court do not mention a filter. The Examiner said that "the equivalence of electrical tuning and mechanical tuning * * * was thought to be * * * generally recognized * * * " This is not even a statement that an electrical filter is the equivalent of electrical tuning. The only word anywhere in the record on that point is that an electrical filter is "entirely different" than electrical tuning (R. 352, 356, 448). The Circuit Court of Appeals apparently has confused an electrical filter with electrical tuning. The opinion states (R. 1603) that an electrical filter has "the property of amplifying certain vibrations and eliminating others." This is not correct. Tuning amplifies, but a filter cannot amplify (R. 315, 318, 363).

Regardless of expert opinion, the patent grant itself precludes broad interpretation. As has often been said, a patent is a contract.* Consideration for the grant is the disclosure to the public of "some substantial innovation." *Sinclair and Carroll Co., Inc.*, v. *Interchemical Corp.*, 325 U. S. 327, 89 L. Ed. 1644. Patent 2,156,519 in suit was obtained on the basis that the invention resided in "selection of the pipe 18 of approximately one-third of the length of the section or joint of tubing 5 * * * to produce magnified

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*The specification and claims of a patent constitute the patent contract. *O. H. Jewell Filter Co.* v. *Jackson*, 140 Fed. 340 (C. C. A. 8); *Firestone Tire & Rubber Co.* v. *U. S. Rubber Co.*, 79 Fed. (2d) 948 (C. C. A. 6), (cert. den. 298 U. S. 679). A patent is a contract between the inventor and the government and is subject to the same general rules of construction that apply to other contracts. When its terms are plain, and the intention of the parties clearly manifest therefrom, they must prevail. *Goodyear Dental Vulcanite Co.* v. *Davis*, 102 U. S. 222, 26 L. Ed. 149.

or amplified peaks *e*." (Quoting from the specification R. 595, Col. 1, *ll* 64-69). There being no suggestion whatever of the use of an electrical filter, the specification and claims should not be construed to cover such use.

Disclosure of one device does not constitute consideration for a monopoly on an entirely different device.

> "The thing patented is the particular means devised by the inventor by which that result is attained, leaving it open to any other inventor to accomplish the same result by other means."
>
> —*Electric R. R. Signal Co.* v. *Hall Railway Signal Co.*, 114 U. S. 87, 29 L. Ed. 96, 99.

In *Koebel* v. *Coe*, 105 Fed. (2d) 784, the U. S. Court of Appeals for the District of Columbia (before Groner, Chief Justice, and Edgerton and Vinson, Associate Justices), affirmed the District Court on the grounds that a claim was broader than the invention because it included more than was disclosed. The Court of Appeals stated, "They cannot patent what they do not disclose." See also *Corning* v. *Burden*, 56 U. S. 252, 14 L. Ed. 683; *Fuller* v. *Yentzer*, 94 U. S. 288, 24 L. Ed. 103.

Proceedings in the Patent Office

Had Walker intended to have patent 2,156,519 cover the use of an electrical filter in the Lehr and Wyatt system, it would have been a simple matter to disclose that device in the specification. Walker had used an electrical filter in the echo recording system he had built to test out the Lehr and Wyatt system in 1935 (R. 516). His conception

of the idea of using an acoustical tuned pipe did not take place until March 6, 1937 (R. 196). Instead of making disclosure of electrical means in the application for patent 2,156,519, he filed a separate application on the electrical system with an electrical filter "for tuning" the electrical circuit to cause it to "respond more readily to echoes from selected obstructions" in the well (quoting from claim 15, R. 982), this application being Serial No. 164,534 (Exhibit L, R. 954). This application was filed September 18, 1937, only eleven days after application for patent 2,156,519 was filed.

The two applications were handled by different Examiners in the Patent Office. The application for the patent in suit went to Division 5, Class 181-0.5 (R. 1416), "Acoustics, Miscellaneous." Apparently, the Examiner in Division 5 made no search in the electrical signaling art. Neither the Tucker patent* (R. 1077) showing the hot wire microphone and the acoustical resonator, nor the Williams patent (R. 1089) showing an electrical sound detecting system having a filter connected to a microphone and an amplifier, nor any similar prior art, was cited.

Respondent's co-pending application Exhibit L, on the other hand, was examined in Division 42, Class 177 (R. 990), "Electric Signaling."

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*The Circuit Court of Appeals, in its opinion, stated (R. 1600):

"The Tucker patent mentioned was among the examples of the prior art cited by the Examiner."

The Court was in error. The Tucker patent was not cited. The only prior patents cited were Batcheller 602,422, Taylor 1,847,636, and Lehr and Wyatt 2,047,974. See rejections (R. 1464, 1482).

The co-pending application contained the following claim:

> "15. In a system for receiving and translating pressure echoes for various obstructions in a well, pressure responsive means coupled to the well to be exposed to pressure variations therein, electrical means actuated by said pressure responsive means to vary electrical values in accordance with the variations of pressure received by said pressure responsive means, translating means for receiving said electrical variations and for describing an observable wave pattern corresponding to the patterns of the echo waves, and means interposed between said pressure responsive means and said translating means for tuning said electrical means to respond more readily to echoes from selected obstructions than to pressure variations emanating from other sources." (R. 982).

Had the Patent Office intended to grant Walker a monopoly on a system having an electrical recorder with electric tuning, this claim would have been allowed. Instead of allowing it, on April 5, 1939, which was prior to the issuance of patent 2,156,519, the Patent Office Examiner in Division 42 rejected this claim on the prior art.*

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*In its Petition for the Writ of Certiorari herein, page 3, Petitioner stated that claim 15 (R. 982) of the co-pending application Serial No. 164,534, was rejected (R. 1002) as involving no invention over the prior art and canceled (R. 1003). Respondents, in their Brief in Opposition to the Granting of the Writ, page 11, stated:

> "What petitioner fails to say is that in the instant case, *there was no prior art upon which the electrical claims could be rejected* except Walker's own patent in suit." (Italics theirs).

Respondents' statement is not true. Claim 15 of application 164,534 was rejected on the prior Lehr and Wyatt patent in view of a prior patent to Rieber (R. 1000) and again on the Lehr and Wyatt patent alone (R. 1002). It was never rejected on the Walker patent in suit. The patent in suit had not yet issued when these rejections were made.

The Examiner's rejection included the following:

"Claim 15 is further rejected on Lehr *et al* alone. This claim differs from the reference only in the inclusion of a filter. But it is not invention broadly to use a filter wherever a filter is desirable." (R. 1002).

In response to this rejection, Walker cancelled claim 15 (R. 1003). Instead of controverting the rejection, he abandoned any attempts to obtain patent protection on the idea of adding a filter to the Lehr *et al.* system. A new claim 25 (R. 1006) was substituted for cancelled claim 15, but as explained to the Patent Office at the time, the new claim 25 was directed to something "more than any mere inclusion of a filter." (R. 1015).

This cancelled and abandoned claim 15 reads squarely upon Petitioner's Echo-Meter, if the interpretation of the terms of the claims in suit by the Circuit Court of Appeals is correct. The "pressure responsive means" is the Y-pipe, the housing and the microphone coupled to the well. The "electrical means actuated by said pressure responsive means" is the amplifier. The "translating means" is the electrical recorder. The "means for tuning" is the filter.

Unless the decision of the Circuit Court of Appeals is modified, Petitioner will be enjoined from doing the thing that the Patent Office records show is permissible as outside the scope of the monopoly the Patent Office intended to grant Walker.

The file wrapper of patent 2,156,519 (Exhibit T, R. 1415) shows that there was no intention on Walker's part,

or on the part of the Patent Office, to cover anything electrical in the claims. The rejections (R. 1464, 1482), by the Examiner of Division 5 handling Acoustics were chiefly based on the prior patents to Batcheller and Lehr and Wyatt. Respondent's counsel interviewed this Examiner several times (see reference to the interviews, R. 1498, 1512, 1531), and argued extensively (R. 1498-1535) that invention was involved in the Walker system because it made records, by which echoes from different obstructions were "distinguishable" (R. 1500). It was argued that the cited prior art devices, such as the Lehr *et al.* patent, were incapable of doing so and that "it is their absence from the prior art knowledge which defines the difference between success and failure of the system" (R. 1504).

The argument accompanying the submission of the claims points out what it is that enabled Walker to accomplish this result. The claims here in suit (R. 596-598) are claims 1, 13, 14, 15 and 17. These were presented late in the prosecution of the application. They were originally numbered 52 (R. 1496), 58 (R. 1528), 59 (R. 1529), 60 (R. 1529), and 62 (R. 1530), respectively. All were added by amendment after the rejections of earlier claims on Batcheller and Lehr and Wyatt. The claims here in suit define one of the elements as a "pressure responsive device," or a similar term. According to the specification (R. 592, Col. 1, *ll.* 26-28), the "pressure responsive device" is the apparatus 26-28), the "pressure responsive device" is the apparatus shown in Figure 5 (R. 590) of the Walker patent. It includes the diaphragm 23 and the associated housing and

other parts. Page 4 of the specification (R. 594, Col. 1, *l* 63 *et seq.*) describes how this apparatus may be adjusted to vary the sensitivity of the diaphragm 23 and thus "distinguish between echoes from different obstructions in the well" (R. 594, Col. 1, *ll.* 68, 69). The prior patent to Batcheller, while it had a diaphragm, did not disclose a pressure responsive device capable of being adjusted to accomplish this function. (See argument of counsel, R. 1476, 1477).

Original claim 20 (R. 1451) did not include a "pressure responsive device." This claim was cancelled when rejected on the prior art and claim 53 (R. 1497), which called for a "pressure responsive device," was substituted therefor. The remarks accompanying this change stated:

> "Claim 53 has been substituted for Claims 20, 21, 22 and 23 and is directed to the apparatus by which the applicant can produce impulses of different magnitude, which includes means for producing variable impulses and means for visually observing the movement of a pressure responsive device so as to determine when the distinguishable echoes are produced. This is a feature not contemplated in any of the prior art devices and this claim is also clearly allowable." (R. 1504, 1505).

Therefore the phrase "pressure responsive device" used in the claims defines something more than an ordinary microphone such as disclosed in the Lehr and Wyatt patent, which could not be adjusted to perform this function. Only by ignoring the file wrapper can the phrase "pressure responsive device" be construed to define a hot-wire micro-

phone. By adjusting Respondents' "pressure responsive device," slow or gradual changes in pressure can be recorded. A slow change in pressure would have no perceptible effect on an Echo-Meter record (R. 360). The hot-wire microphone responds only to a quick change in velocity — a "steep-front sound wave" (R. 623) such as that created by a gun shot.

In another respect, the file wrapper (Exhibit T, R. 1415) of the patent in suit imposes limitations in the claims in suit. Broad claims (such as original claim 27, R. 1454), not limited to tuning had been rejected (R. 1464) on Batcheller (R. 1065), and cancelled (R. 1466). In presenting claims 52, 58, 59, 60 and 62 (claims 1, 13, 14, 15 and 17 of the patent which are the claims in suit), it was represented to the Patent Office that the language of claim 58 specifies "all of the necessary elements for accomplishing the result of producing the echoes from the tubing collars which are distinguishable from each other" (R. 1532), that "claim 59 recites the same structure in more limited terms, specifying that this means or mechanism for permitting the distinguishable registration of the tubing collar echoes is an 'interference eliminating means' * * * as specified on page 20 of the original specification" (R. 1533); that "claim 60 defines the same subject but limits the mechanism to a resonance means, which produces a natural acoustical period of oscillation" (R. 1533), that claim 62 is directed to the feature "which has the peculiar characteristic that it has the natural frequency of oscillation which will result in the accenting of tubing collar echoes"

(R. 1533), and claim 52 (claim 1 of the patent) was classed with claims specific to an adjustable pipe (R. 1533, 1534).

The Court may properly consider "what the patentee said when he was making his application" to determine whether "the construction of the patent is confirmed by the avowed understanding of the patentee expressed by him, or on his (be)half, when his application for the original patent was pending." *Goodyear Dental Vulcanite Co.* v. *Davis*, 102 U. S. 222, 26 L. Ed. 149, 150.

If the file wrappers (Exhibit T, R. 1415 and Exhibit L, R. 953) are considered, it becomes clear that the patent in suit is directed to a system quite different from Petitioner's Echo-Meter.

It was old in the art to shoot a gun and record the echo with a diaphragm recorder (Batcheller, No. 602,422, R. 1065). It was old in the art to create a pressure impulse in a well by allowing gas to enter from a pressure cylinder and record the echo with a microphone, amplifier and electrical recorder (Lehr, No. 2,047,974, R. 1101). From the prior art, Walker selected the pressure cylinder of Lehr and the diaphragm recorder of Batcheller, and added an adjustable pipe to tune the recorder. Petitioner went just the other way. It selected the gun of Batcheller, the microphone of Tucker, and used the conventional electrical amplifier and recorder, such as disclosed in the Lehr patent and used by the Union Oil Company long before that. Where such differences exist between the structure of a patent, and the structure of the accused device, no infringement exists. *Electric R. R. Signal Co.* v. *Hall Railway Signal Co.*, 114 U. S. 87, 29 L. Ed. 96.

SUMMARY OF ARGUMENT

The claims in suit are invalid.

The Circuit Court of Appeals for the Ninth Circuit, by ruling that "means * * * for tuning * * *" in Claim 1 and like functional statements in Claims 13, 14, 15 and 17 of Patent 2,156,519 define the only novel element in the claims "with sufficient distinctness and clarity to comply with the statute" (R. 1600), has rendered a decision in direct conflict with the decision of this Court in *General Electric Co.* v. *Wabash Appliance Corp.*, 304 U. S. 364, 82 L. Ed. 1402. The claims do not meet the requirements of R. S. Sec. 4888.

The claims in suit are not infringed.

The Circuit Court of Appeals for the Ninth Circuit, by ignoring the rejection, cancellation and abandonment of a claim in a co-pending application for patent, has so construed the claims in suit as to cause them to cover subject matter refused Respondents by the Patent Office and has imposed undue restrictions on the rules governing the construction of claims set forth in *Schriber-Schroth Co.* v. *Cleveland Trust Co.*, 311 U. S. 211, 220, 221, 85 L. Ed. 132, 137, 138. Respondents are estopped from asserting title to the abandoned subject matter.

Conclusion

Respondents seek a monopoly on apparatus entirely different than that disclosed or intended to be covered by the patent grant. The claims of the patent should be held invalid because broader than the invention. If valid, they should be held not infringed by apparatus different from that disclosed in the patent.

ARGUMENT

The claims in the suit are invalid.

The requisites for definiteness in the specifications and claims of a patent are statutory. A patentee must describe his invention in:

> "* * * such clear, concise and exact terms as to enable any person skilled in the art or science to which it appertains, or with which it is most nearly connected, to make, construct, compound and use the same; and in the case of a machine, he shall explain the principle thereof, and the best mode in which he has contemplated applying that principle, so as to distinguish it from other inventions; and he shall particularly point out and distinctly claim the part, improvement or combination which he claims as his invention or discovery."
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> —Section 4888 of the Revised Statutes (U. S. C. title 35, sec. 33).

> "It seems to us that nothing can be more just and fair both to the patentee and to the public, than that the former should understand and correctly describe just what he has invented, and for what he claims a patent."
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> —*Merrill* v. *Yoemans*, 94 U. S. 568, 24 L. Ed. 235, 237.

> "The statute requires the patentee not only to explain the principle of his apparatus and to describe it in such terms that any person skilled in the art to which it appertains may construct and use it after the expiration of the patent, but also to inform the public during the life of the patent of the limits of the monopoly asserted, so that it may be known which features may be safely used or manufactured without a license and which may not."

—*Permutit Co.* v. *Graver Corp.*, 284 U. S. 52, 60, 76 L. Ed. 163, 167.

"The courts in determining the questions of invention and infringement brought to them by respondent, no less than the parties-litigant, need and may insist upon the precision enjoined by the statute."

—*United Carbon Co.* v. *Binney & Smith Co.*, 317 U. S. 228, 232, 87 L. Ed. 232, 235.

In *General Electric Co.* v. *Wabash Appliance Corp.*, 304 U. S. 364, 369, 82 L. Ed. 1402, 1405, this Court stated

"Recognizing that most inventions represent improvements on some existing article, process or machine, and that a description of the invention must in large part set out what is old in order to facilitate the understanding of what is new, Congress requires of the applicant 'a distinct and specific statement of what he claims to be new, and to be his invention.' Patents, whether basic or for improvements, must comply accurately and precisely with the statutory requirement as to claims of invention or discovery. The limits of a patent must be known for the protection of the patentee, the encouragement of the inventive genius of others and the assurance that the subject of the patent will be dedicated ultimately to the public. The statute seeks to guard against unreasonable advantages to the patentee and disadvantages to others arising from uncertainty as to their rights." * * *

The Circuit Court of Appeals seems to have set up a rule for testing the definiteness of claims to a combination different from that applicable to claims for a single element or specific product. In denying the petition for rehearing, the Circuit Court of Appeals stated:

"In its petition for rehearing appellant, Halliburton Oil Well Cementing Company, assumes that the court

in ruling on Walker's patent No. 2,156,519 failed to consider the cases of *General Electric Co.* v. *Wabash Appliance Corp.*, 304 U. S. 364, and *Davis Sewing Mach. Co.* v. *New Departure Mfg. Co.*, 217 Fed. 775, particularly the first of these decisions. Halliburton is mistaken. In the General Electric case the claim considered was not one for a combination of elements, but a claim for a single element. Here, the claims are for a combination of elements." (R. 1614).

In his concurring opinion denying rehearing, Judge Denman stated:

"No case is cited in which such a combination of means alone has been sought and the case seems of novel import." (R. 1615).

We believe that there is no previous authority for the distinction made by the Court. The statutes do not authorize such a distinction. In fact, the statutes seem to require even greater particularity in a patent on a machine or combination of elements than in a patent on one of the other three classes of inventions listed as patentable in R. S. 4886 (U. S. C. title 35, sec. 31), for the statutes mention it specifically, stating:

"and in the case of a machine, he shall explain the principle thereof, and the best mode in which he has contemplated applying the principle, so as to distinguish it from other inventions."

—R. S. Sec. 4888 U. S. C. title 35, Sec. 33.

"The term 'machine' includes every mechanical device or combination of mechanical powers and devices to perform some function and produce a certain effect or result."

—*Corning et al.* v. *Burden*, 56 U. S. 252, 267, 14 L. Ed. 683, 690.

Several cases are in direct conflict with the ruling [149 Fed. (2d) 896, R. 1614, 1616] of the Ninth Circuit Court of Appeals in the present case that the doctrine of *General Electric* v. *Wabash*, 304 U. S. 364, does not apply to claims on a combination of elements. These conflicting cases are reviewed briefly here.

In *Rice* v. *Nash-Kelvinator Corp.*, 150 Fed. (2d) 457 (C. C. A. 6), decided since the Ninth Circuit Court of Appeals rendered its decision, a patent on a refrigeration machine was involved. Claim 3 called for a *combination* of old elements, a compressor, a condenser, an evaporator and pipe connections, with one new element, a capillary tube. The claim was thus identical in form with that of the claims in the case at bar. The Sixth Circuit Court of Appeals stated:

> "Claim 3 requires a capillary tube such as will maintain the predetermined ratio described above 'and minimize any tendency of the tube to clog, the said parts of the refrigerating machine and the refrigerant charge being so co-ordinated that the single capillary tube is adapted to function as the regulating device of the flow between the condenser and the evaporator and by reason of the said co-ordination the liquid level in the evaporator is maintained between narrow limits.'
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> "These portions of the claims describe not the structure, but the function or purpose to be achieved by the tube. This practice has recently been condemned. *General Electric Co.* v. *Wabash Appliance Corporation*, 304 U. S. 364, 371, 58 S. Ct. 899, 82 L. Ed. 1402; *United Carbon Co.* v. *Binney & Smith Co.*, 317 U. S. 228, 234, 63 S. Ct. 165, 87 L. Ed. 232."
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> —150 Fed. (2d) 460.

In another recent case, *Application of Horton et al.*, 151 Fed. (2d) 210, the Court of Customs and Patent Appeals had before it a number of claims on combinations of elements. These had been rejected by the Examiner and the Board of Appeals in the Patent Office because "their broad and indefinite language fails to make a clear distinction" over the prior art. The Court of Customs and Patent Appeals reversed the Patent Office tribunals as to some of the claims because they contained structural limitations, but it affirmed the Patent Office tribunals as to those claims which attempted to distinguish from the prior art only by functional limitations, the Court stating:

> "The board was further of opinion, as stated in its decisions, that the claims here on appeal do not define the 'generic novelty' of appellants' device in terms of structure, but rather in terms of function.
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> "If the latter holding of the board is correct, the rejection should be sustained, since claims drawn to apparatus cannot be allowed unless they distinguish from the prior art in terms of structure. *In re Skaupy*, 67 Fed. (2d) 492, 21 C. C. P. A., Patents, 712; *In re Carr*, 120 Fed. (2d) 386, 28 C. C. P. A., Patents, 1240; *General Electric Co.* v. *Wabash Appliance Corp. et al.*, 304 U. S. 364, 370, 371, 58 S. Ct. 899, 82 L. Ed. 1402."
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> —151 Fed. (2d) 213.

In *Kool Kooshion Mfg. Co.* v. *Mitchell Mfg. Co.*, 102 Fed. (2d) 37, (C. C. A. 8), a patent on a combination of several elements was involved. The Court stated:

> "Appellee urges that claim 3 is invalid as being indefinite in that it specifies no definite fabric enclosure nor any definite means of extending and holding extended the cushion. There is serious question

whether this criticism is not well founded under the doctrine of *General Electric Co.* v. *Wabash Appliance Corp.*, 304 U. S. 364, 370-375, 58 S. Ct. 899, 82 L. Ed. 1402."

—102 Fed. (2d) 38.

In *Allen-Bradley Co.* v. *Erie Resistor Corp.*, 104 Fed. (2d) 150 (C. C. A. 3), the following claim was involved:

"7. As an article of manufacture, an electrical resistor unit having as ingredients thereof, a non-conducting material serving as a filler, a suitable material affording a binder, and carbon black calcined to substantially graphitizing temperature."

—104 Fed. (2d) 151.

The Court stated:

"The appellant therefore is caught between the horns of a dilemma. If the phrase 'to substantially graphitizing temperatures' as used in the claims be construed to mean what we think Power and Bradley must have intended it to mean, viz., calcining temperatures of not less than 1927° Centigrade, we must also hold that the appellee's processes do not infringe the three claims now under discussion. If, upon the other hand, we do not so interpret the phrase referred to in the claims in question, there is no doubt that the claims are invalid for want of definiteness. *General Electric Co.* v. *Wabash Appliance Corp.*, 304 U. S. 364, 371, 58 S. Ct. 899, 82 L. Ed. 1402, 1407. (Other cases cited). So regarding, and without passing upon the validity of the disclosures of the patent over the prior art, we concur in the ruling of the District Judge that claims 4, 7, and 8 of the patent are not infringed by the appellee's processes."

—104 Fed. (2d) 152.

In *Hazeltine Corporation* v. *Emerson Television-Radio, Inc.*, 129 Fed. (2d) 580, (C. C. A. 2) the following claim to a combination was involved:

> "5. The combination of a large conical diaphragm, with a casing open at opposite ends disposed about the edge of said diaphragm and providing an open sound chamber at the rear of said diaphragm serving to enhance the operation thereof throughout its frequency range."
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> —129 Fed. (2d) 581.

The Court stated:

> "The term 'large diaphragm' had an accepted meaning in the art. Otherwise claims 1, 3 and 5, which call for a 'large' diaphragm, might well be thought so vague as to be invalid. Cf. *B. B. Chemical Co.* v. *Cataract Chemical Co.*, 2 Cir., 122 Fed. (2d) 526, 530; *General Electric Co.* v. *Wabash Appliance Corp.*, 304 U. S. 364, 58 S. Ct. 899, 82 L. Ed. 1402."
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> —129 Fed. (2d) 581.

See also *In Re Cohen*, 133 Fed. (2d) 924, 928, 929, (C. C. P. A.); *Timken Detroit Axle Co.* v. *Cleveland Steel Products Corp.*, 148 Fed. (2d) 267, 269, (C. C. A. 6).

Except for the ruling of the Ninth Circuit Court of Appeals in the case at bar, we have found no case holding that the doctrine of *General Electric* v. *Wabash Appliance Corp.*, 304 U. S. 364, should be limited, in its application to claims on a *single element*. It has universally been held that the case sets forth the doctrine "that functional statements cannot be availed of to define over the prior art." *Mead Johnson & Co.* v. *Hillman's Inc.*, 135 Fed. (2d) 955, 958, (C. C. A. 7). As stated by the Court of Appeals for

the District of Columbia in *Minnesota Mining & Mfg. Co.* v. *Coe*, 113 Fed. (2d) 512, 513, in an opinion by Associate Justice Rutledge:

> "It has been held that a description by function does not comply with the statutory requirement that the inventor 'shall particularly point out and distinctly claim the part, improvement, or combination which he claims as his invention or discovery.' Rev. Stat. Sec. 4888, 35 U. S. C. (1934) Sec. 33, 35 USCA Sec. 33; *General Electric Co.* v. *Wabash Co.*, 1938, 304 U. S. 364, 58 S. Ct. 899, 82 L. Ed. 1402; *Koebel* v. *Coe*, 1939, 70 App. D. C. 261, 105 Fed. (2d) 784."

This Court has not heretofore limited the doctrine to the "single element" class of invention involved in the *General Electric* v. *Wabash* case. In *Universal Oil Products Co.* v. *Globe Oil & Ref. Co.*, 322 U. S. 471, 484, 88 L. Ed. 1399, 1407, the case is cited and the doctrine applied to process claims.

The Ninth Circuit Court of Appeals itself seems to be in doubt as to the application of the doctrine of the *General Electric* v. *Wabash* case to claims on a combination of elements. In *John Bean Mfg. Co.* v. *Creagmile*, 123 Fed. (2d) 182, claims to a combination were involved. In the opinion written by Judge Denman, there is an analysis of the claims there involved similar to Judge Denman's analysis [149 Fed. (2d) 896, R. 1615] of one of the claims in the case at bar, and the opinion then states:

> "We believe there is grave doubt as to whether or not these claims are valid on their face on the ground of their failure to make disclosure sufficiently definite to satisfy the requirements of R. S. 4888, 35 USCA Sec. 33. Cf. *General Electric Co.* v. *Wabash Appliance*

> *Corp.*, 304 U. S. 364, 368-370, 58 S. Ct. 899, 82 L. Ed. 1402. However, we have resolved our doubt in favor of examining into the question of novelty and anticipation."
>
> —123 Fed. (2d) 184.

See also *Farmers Cooperative Exchange* v. *Turnbow*, 111 Fed. (2d) 728 (C. C. A. 9), where claims to a combination were held invalid because they used "conveniently functional language at the exact point of novelty."

The claims involved in *General Electric Co.* v. *Wabash Appliance Corp.*, 304 U. S. 364, would not have been rendered more definite if they had called for a *combination* of the old parts of the lamp with a new filament instead of calling for "a filament *for* electric incandescent lamps."

Conversely, there is no real difference between the claims in the present case for a *combination* of parts of the old Lehr and Wyatt device with means for tuning one part, and a claim directed merely to means *for* tuning the receiver of the Lehr and Wyatt device.

The requirements for definiteness should not be evaded by reciting inconsequential matter in a claim. All Walker has added to the Lehr and Wyatt system is the acoustically tuned pipe. This does not affect the "means communicating with said well for creating a pressure impulse in said well" (referred to as element B by Judge Denman, R. 1615). It is an improvement in the recorder only.

> "The improvement of one part of an old combination gives no right to claim that improvement in combination with other old parts which perform no new function in the combination."

—*Lincoln Engineering Co.* v. *Stewart-Warner Corp.*, 303 U. S. 545, 549, 550, 82 L. Ed. 1008, 1010.

See also the discussion in the opinion by Associate Justice Vinson in *Krause* v. *Coe*, 120 Fed. (2d) 717, U. S. Court of Appeals for the District of Columbia.

If there is a difference of any importance between the form of the claims in the Walker patent in suit and those condemned in *General Electric Co.* v. *Wabash Appliance Corp.*, it is a difference which brings the claims in suit squarely within the ruling in *Lincoln Engineering Co.* v. *Stewart-Warner Corp.* The claims are to an old combination.

But the use of the word "means" to define the novel element in combination claims does not, as Judge Denman thought, raise a question of novel import. In 1907, in the case of *Tyden* v. *Ohio Table Co.*, 152 Fed. 183, the Circuit Court of Appeals for the Sixth Circuit had before it a patent on a pedestal table. Claim 1 of the patent was for a combination of elements. The parts of the table were set forth in some detail, but the novel element was defined only by the "means" followed by a recital of functions. The Court, speaking through Judge Lurton, held that the claim was too broad, stating:

> "It claims all means for locking and holding the pedestals and is substantially a claim for a function. It cannot be upheld and must be held void."

Later, the rule of *Tyden* v. *Ohio Table Co.* was again considered by the Circuit Court of Appeals for the Sixth Circuit. In *Davis Sewing Machine Co.* v. *New Departure*

Mfg. Co., 217 Fed. 775, combination claims, which used the word "*mechanism*" instead of "*means*" to define certain elements, were under consideration. *It was held that such a word was not objectionable where used in the claim to define other than the nove' element, but that the use of the all-inclusive term was objectionable where used to define the exact point of novelty.* The opinion by Judge Denison states:

> "Reliance is also placed upon the opinion of this Court, speaking by Judge (afterwards Mr. Justice) Lurton, in *Tyden* v. *Ohio Table Co.*, 152 Fed. 183, 81 C. C. A. 425. In this case, the claim calling for 'means' was held invalid because it covered all means for accomplishing the result, and so was functional. We do not question the application of the rule as made to the facts of that case; but we do not understand that a claim is functional and invalid merely because one of its specified elements is 'means,' as in the Tyden Case, or 'mechanism,' as in the present case. This result may or may not follow, depending upon whether the all-inclusive term is used with reference to the element or subcombination which is the real point and gist of the invention, or whether it is used with reference to elements or parts of the combination already well known and designed only to co-operate with the new element in order to make a completely operative unit. In other words, where used with reference to the exact point of novelty, 'means' or 'mechanism' may expose the claim to attack on the ground that it is functional; in that respect, each case will present a problem by itself. But where used with reference to the make-up of the field in which the real invention finds its usefulness or with reference to the connecting parts which permit the salient novelty of the invention to accomplish its function, these words are

only a convenient formula of the broadest equivalency of which the real invention permits."

—217 Fed. at 782-783.

Respondents rely upon *Continental Paper Bag Co.* v. *Eastern Paper Bag Co.*, 210 U. S. 405, 52 L. Ed. 1122, in support of their contention that it is proper to define the novel element in a claim to a combination by reciting only its function. The case does not support this contention. The combination claims in that case called for:

(1) "A rotating cylinder provided with one or more pairs of side forming fingers.

(2) "A forming plate also provided with side forming fingers.

(3) "Means for operating said fingers at definite times.

(4) "Operating means for the forming plate adapted to cause the said plate to oscillate."

—(Quoting from Claim 1, 210 U. S. 417, 52 L. Ed. 1127).

There are two clauses in this claim which define structure in some detail and there are two clauses which are purely functional. Whether the claim complies with the statute depends upon which of these clauses is directed to the novel elements of the combination. It was held that the novelty resided in the combination of the rotating cylinder and the forming plate, which were described structurally in the claim.

"The circuit court said that the 'pith' of the invention 'is the combination of a rotating cylinder with means for operating the forming plate in connection therewith, limited, however, to means which cause the plate to oscillate about its rear edge on the surface

thereof,' and distinguished the invention from the prior art, as follows: 'Aside from the cylinder and the forming plate oscillating about its rear edge, everything in these claims (the claims of the patent) is necessarily old in the arts.' It was this peculiar feature of novelty, it was said, which clearly distinguished it from all that went before it. This conclusion was in effect affirmed by the circuit court of appeals. The latter court said that the folding of the bottoms of S. O. S. paper bags had been accomplished in the prior art both by a folding plate reciprocating upon a plane, and by the operation of fingers upon a cylinder. The folding plate and the cylinder had never been combined. * * *

"Counsel, however, contends that the circuit court, in its decision, virtually gave Liddell a patent for a function by holding that he was entitled to every means to cause the forming plate to oscillate about its rear edge. * * *

"The claim is not for a function, but for mechanical means to bring into working relation the folding plate and the cylinder. This relation is the very essence of the invention, and marks the advance upon the prior art."

—*Continental Paper Bag Co.* v. *Eastern Paper Bag Co.*, 210 U. S. 405, 420, 421, 422, 52 L. Ed. 1122, 1129.

The rule established by the "Paper Bag Case" is: A combination claim defining novel elements by recitations of their structure is not rendered functional merely because other elements not directed to the exact point of novelty are defined as "means" for accomplishing a given function. The "Paper Bag Case" was so interpreted in *Davis Sewing Machine Co.* v. *New Departure Mfg. Co.*,

217 Fed. 775, (C. C. A. 6), which interpretation has been followed ever since. In the *Davis Sewing Machine Co.* case the Court stated:

"In the latest reported decision touching this point, Paper Bag Patent Case, 210 U. S. 405, 422, 28 Sup. Ct. 748, 752 (52 L. Ed. 1122), the claim called for the combination of a rotating cylinder, forming plate, and 'operating means for the forming plate adapted to cause the said plate to oscillate about its rear edge etc.' (The claim included other mention of 'means' as elements, but this is the one to which the opinion refers.) It was argued that, by extending the patent to cover a device in which the defendants used very different means of causing a forming plate to oscillate about its rear edge, the court below had given the patentee a patent for a function. The Supreme Court held, in effect, that the use of these general terms is not objectionable in cases where the element so identified serves to provide a 'working relation' for what may be called the more primary elements of the combination. Mr. Justice McKenna says:

"'The distinction between a practically operative mechanism and its function is said to be difficult to define. Robinson on Patents, Sec. 144 *et seq.* It becomes more difficult when a definition is attempted of a function of an element of a combination which is the means by which other elements are connected and by which they coact and make complete and efficient the invention. But abstractions need not engage us. The claim is not for a function, but for a mechanical means for bringing into working relation the folding plate and the cylinder.'

"The Patent Office practice, in the shaping of claims with reference to these phrases, has vacillated. After some of the early court decisions disapproving the par-

ticular uses of these words which were involved in the cases decided, the Patent Office was inclined to forbid their use; but this confusion later settled down into the clearly established rule that these words would not be permitted where the novelty of the invention was in the specific mechanism to which they were intended to refer, but would be approved when they described 'mere adjunctive devices which connect or give co-operation to the various elements or features of the invention, but are in themselves no actual controlling part of it.' *Ex parte Paige*, 40 O. G. 807, 810; *Ex parte Pacholder*, 51 O. G. 295; *Ex parte* Halfpenny, 73 O. G. 1135. Pursuant to this rule regulating the 'substantive' and the 'adjunctive'—which we consider only another form of words for the distinction we have expressed—the great majority of patents during the last few years have contained claims identifying certain elements as for 'means,' 'mechanism,' 'devices,' etc."

—217 Fed. 783, 784.

The rule of *Davis Sewing Mach. Co.* v. *New Departure Mfg. Co.* has been cited with approval in many later cases. In some cases, as in *White Tool and Supply Co.* v. *Air Reduction Co.*, 48 Fed. (2d) 720, (C. C. A. 6); *Buono* v. *Yankee Maid Dress Corp.*, 77 Fed. (2d) 274, (C. C. A. 2); and *General Tire and Rubber Co.* v. *Fisk Rubber Corp.*, 104 Fed. (2d) 740, (C. C. A. 6), it has been cited to show that the use of the word "means" in a combination claim to define *other than the exact point of novelty* does not render the claim functional or invalid. In other cases, as in *Heidbrink* v. *Hardessen Co.*, 25 Fed. (2d) 8, (C. C. A. 7); *Goodwin* v. *Carloss Co.*, 116 Fed. (2d) 644, (C. C. A.

6); *In re Tucker*, 46 Fed. (2d) 214, (C. C. P. A.); *In re Ferguson*, 83 Fed. (2d) 693, (C. C. P. A.); and *In re Spitzglass*, 96 Fed. (2d) 1002 (C. C. P. A.); it has been cited to show that the word "means" renders a claim functional *where it is directed to the novel element.* In still other cases, such as *Hollingshead Co.* v. *Bassick Mfg. Co.*, 73 Fed. (2d) 543 (C. C. A. 6); *Firestone Tire and Rubber Co.* v. *United States Rubber Co.*, 79 Fed. (2d) 948 (C. C. A. 6) (Cert. denied 298 U. S. 679), it has been cited in support of a holding of non-infringement, the word "means" in combination claims being held to cover only the actual means described in the specification.

The soundness of the rule of the *Davis Sewing Machine* case has never been questioned. *Walker on Patents* (Deller's Ed.) Vol. 2, page 790, cites no other case under the heading, "Use of 'means' or 'mechanism,' etc., in claims," the author stating:

> "The interpretation to be given to such words as 'means,' 'mechanism,' etc., when used in claims, was fully discussed in *Davis Sewing Mach. Co.* v. *New Departure Mfg. Co.*, 217 Fed. 775, 782-784, C. C. A. 6 (1914), by Judge Denison. Because of the comprehensive nature of the discussion, the opinion is quoted in full: * * * "

In *General Electric Co.* v. *Wabash Appliance Corp.*, 304 U. S. 364, this Court cited the *Davis Sewing Machine* case in support of a ruling condemning the use of conveniently functional language at the exact point of novelty in a claim. This Court, speaking through Mr. Justice Reed, said:

"The claim uses indeterminate adjectives which describe the functions of the grains to the exclusion of any structural definition, and thus falls within the condemnation of the doctrine that a patentee may not broaden his product claims by describing the product in terms of function. (*Holland Furniture Co.* v. *Perkins Glue Co.*, 277 U. S. 245, 256-258, 72 L. Ed. 868, 872, 873, 48 S. Ct. 474, and cases cited). Claim 25 vividly illustrates the vice of a description in terms of function. 'As a description of the invention it is insufficient and if allowed would extend the monopoly beyond the invention. (277 U. S. at 258). The Court of Appeals for the Ninth Circuit relied on the fact that the description in the claims is not 'wholly' functional. 80 Fed. (2d) 958, 963. But the vice of a functional claim exists not only when the claim is 'wholly' functional, if that is ever true, but also when the inventor is painstaking when he recites what has already been seen, and then uses conveniently functional language at the exact point of novelty. [See *Gynex Corp.* v. *Dilex Institute*, (C. C. A. 2d), 85 Fed. (2d) 103, 105; *Davis Sewing Machine Co.* v. *New Departure Co.*, (C. C. A. 6th), 217 Fed. 775, at 782.]"

—304 U. S. at 371, 82 L. Ed. at 1406-1407.

Both lower courts have found that there is but one novel element in the combination claimed in the patent in suit, this being the tuned acoustical resonator. The District Court found that:

"5. Prior to the patents in suit it was not new to fire a gun into a pipe and mechanically record the echo from an obstruction in the pipe and it was not new to inject into a well casing a charge of gas from a cylinder of gas under pressure and record electrically the echoes from obstructions in the well.

"6. Patent No. 2,156,519 is an apparatus patent and the apparatus disclosed includes mechanism for creating in the well a pressure wave caused by the sudden introduction of pressure into the well casing or the sudden release of pressure from the casing, a tuned acoustical resonator for accenting reflections from tubing collars or other apparatus or equipment in the well which diminishes or enlarges the annular space in the well at known regular intervals, a diaphragm actuated by pressure caused by the echoes and a mechanical, optical translating and recording mechanism for recording the echoes upon a tape together with mechanism for recording on the tape time intervals. This apparatus differs from and is an improvement over the prior art in the incorporation in such apparatus of a tuned acoustical means which performs the function of a sound filter as described in claims 1, 13, 14, 15 and 17."

—Findings of Fact (R. 28, 29).

The Circuit Court of Appeals stated:

"The trial court found that the only part of this patent constituting invention over the prior art is the 'tuned acoustical means which performs the functions of a sound filter.' It will be noted that Walker's acoustical tuned resonator is a purely mechanical device.

* * * * * * * * * * * *

"While Lehr and Wyatt suggest an amplifier, they neither suggest nor claim any device which would enable the operator to tune up certain desirable echoes while tuning out undesirable ones."—(R. 1599, 1600).

Claim 1 (R. 596) of patent 2,156,519 here in suit defines the part found below to constitute the only novel element as "means associated with said pressure responsive device

for tuning said receiving means to the frequency of echoes from the tubing collars." The particularity with which the other elements are defined is not important. When the exact point of novelty is reached only the function is recited. The claim in effect says merely: I claim means for tuning the receiver of a known echo depth measuring system to the frequency of echoes from the tubing collars.

Likewise, claim 13 (R. 597) of patent 2,156,519 defines the novel element only as "means associated with said receiving and registering means to accent the registration of tubing coupling echoes." No structure whatever is recited —only the function of some undefined means. Likewise, claim 14 (R. 598) defines the novel element only as "interference eliminating means;" claim 15 (R. 598) defines it as "resonance means associated with said receiving and registering means to produce therein a natural acoustical period of oscillation;" and claim 17 (R. 598) defines it as "means having a natural frequency of oscillation so related to the frequency of the echoes from said tubing couplings as to accent the registration of said echoes."

No one reading these claims can tell what this "means" is. This "means" includes everything that can perform the function.

The indefiniteness of these claims is not cured by the specification. In *General Electric Co. v. Wabash Appliance Corp.*, the Court said further:

> "The product claims here involved cannot be validated by reference to the specification. Assuming that in a proper case a claim may be upheld by refer-

> ence to the descriptive part of the specification in order to give definite content to elements stated in the claim in broad or functional terms, the specification of the Pacz patent does not attempt in any way to describe the filament, except by mention of its coarse-grained quality."
>
> —304 U. S. at 373, 82 L. Ed. at 1407.

In the same way, in the case at bar, the specification of patent 2,156,519 throws no light on the functional language of the claims. The following terms are not used in the specification: "means to accent," "interference eliminating means," "resonance means," "natural acoustical period of oscillation" or "natural frequency of oscillation."

In *General Electric Co.* v. *Wabash Appliance Corp.*, the Court said further:

> "The inventor must 'inform the public during the life of the patent of the limits of the monopoly asserted, so that it may be known which features may be safely used or manufactured without a license and which may not.'"
>
> —304 U. S. at 369, 82 L. Ed. at 1405.

No one having only patent 2,156,519 before him is apprised that these claims cover an electrical filter in the Lehr and Wyatt electrical system. No electric recorder with or without a filter is either described or shown. An entirely different application for patent (Exhibit L, R. 953) was prosecuted by Walker on the electrical recorder with a filter. The all-inclusive, purely functional clauses on the only novel element in the claims in suit do not "particularly

point out" the improvement, and the specification does not describe the improvement in "full, clear, concise and exact terms," as required by R. S. Sec. 4888, if the improvement consists in putting an electrical filter in the prior Lehr and Wyatt system.

Insofar as they attempt to define the novelty of the alleged invention, the claims are but inaccurate suggestions of the functions of the acoustical resonator.

> "The statutory requirement of particularity and distinctness in claims is met only when they clearly distinguish what is claimed from what went before in the art and clearly circumscribe what is foreclosed from future enterprise. A zone of uncertainty which enterprise and experimentation may enter only at the risk of infringement (of) claims would discourage invention only a little less than unequivocal foreclosure of the field."
>
> —*United Carbon Co.* v. *Binney & Smith Co.*, 317 U. S. 228, 236, 87 L. Ed. 232, 237.

The language of *Burr* v. *Duryee*, 68 U. S. 531, 17 L. Ed. 650, 657, 658, is applicable:

> "A machine is a concrete thing, consisting of parts, or of certain devices and combination of devices. The principle of a machine is properly defined to be 'its mode of operation,' or that peculiar combination of devices which distinguishes it from other machines. A machine is not a principle or an idea. The use of ill defined abstract phraseology is the frequent source of error. It requires no great ingenuity to mystify a subject by the use of abstract terms of indefinite or equivocal meaning. Because the law requires a patentee to explain the mode of operation of his peculiar machine, which distinguishes it from others, it does

not authorize a patent for a 'mode of operation as exhibited in a machine.' * * *

"No one who reads the two specifications, or inspects the two machines, can aver that they contain the same combination of mechanical devices, or substantially the same, to produce the desired effect. Not one of the devices or its equivalent, used in the one is to be found in the other, nor is its mode of operation the same. The argument used to show infringement assumes that every combination of devices in a machine which is used to produce the same effect, is necessarily an equivalent for any other combination used for the same purpose. This is a flagrant abuse of the term 'equivalent.' * * * In the case of *McCormick* v. *Talcott*, 61 U. S. 402, 15 L. Ed. 930, 931, we have said: 'If the invention claimed be itself but an improvement on a known machine by a mere change of form or combination of parts, the patentee cannot treat another as an infringer who has improved the original machine by use of a different form, or combinations performing the same functions. The inventor of the first improvement cannot invoke the doctrine of equivalents to suppress all other improvements which are not colorable invasions of the first.'"

The claims in suit are not infringed.

If there is one principle clearer than another in patent law, it is that "the claims are to be interpreted in the light of the specifications and drawings." *Huntman Stabilizer Corp.* v. *General Motors Corp.*, 144 Fed. (2d) 963 (C. C. A. 3), Cert. Denied, 3223 U. S. 782, 89 L. Ed. 624.

See also:

The Incandescent Lamp Patent, 159 U. S. 465, 40 L. Ed. 221;

Schriber-Schroth Co. v. *Cleveland Trust Co.*, 305 U. S. 47, 57, 83 L. Ed. 34, 39;

Century Electric Co. v. *Westinghouse Electric & Mfg. Co.*, 191 Fed. 350, 354, (C. C. A. 8).

To establish infringement, it must be shown that the accused device is the same as that of the patent in suit or the equivalent. *Union Water-Meter Co.* v. *Desper*, 101 U. S. 332, 25 L. Ed. 1024.

To be the equivalent, *three requirements must be met.*

> "To sustain the charge of infringement the infringing device must be substantially identical with the one alleged to be infringed in (1) the result attained; (2) the means of attaining the result; and (3) the manner in which its different parts operate and co-operate to produce that result. If the devices are substantially different in either of these respects the charge of infringement is not sustained."
>
> —*Electric Protection Co.* v. *American Bank Protection Co.*, 184 Fed. 916, 923, (C. C. A. 8).

In the present case:

1. There is not the same means. For example, a hot-wire microphone is not the same as the diaphragm of the patent (R. 341, 342). One is electrical; the other is mechanical. One does not respond to pressure pulses; the other does (R. 346, 358, 361). There is no interchangeability (R. 347). Interchangeability is an important test of identity of means. *Miller* v. *Eagle Mfg. Co.*, 151 U. S. 186, 208, 38 L. Ed. 121, 131.

2. There is not the same operation. For example, Petitioner's means for eliminating extraneous noises from being recorded does not operate in the same way as

Walker's tuning pipe (R. 356). The tuning pipe amplifies the sound waves before they affect the receiver in any way (R. 355). An electrical filter does not affect the sound waves (R. 349, 456, 656), but changes the characteristics of an electrical amplifier (R. 357) by decreasing undesirable electrical currents created in the microphone (R. 363, 456). The filter does not amplify (R. 315, 318, 363). It is not "resonant" (R. 351, 352, 363), does not have a "natural acoustical period of oscillation" (R. 317, 457), and does not "accent" (R. 363). The Court is not even called upon to decide whether an electrical tuning device is the equivalent of a mechanical tuning device, because a filter is not a tuning device (R. 351, 352, 356, 357, 447, 448). The filter and the acoustical tuner of the patent are "entirely different in their mode of operation" (R. 356). The principle of law applies, that where the *mode of operation* of the accused machine is substantially different from that of the patent, infringement cannot exist. *Field* v. *DeComeau*, 116 U. S. 187, 29 L. Ed. 596; *Yale Lock Mfg. Co.* v. *Sargent*, 117 U. S. 373, 29 L. Ed. 950; *Universal Oil Products Co.* v. *Globe Oil & Ref. Co.*, 322 U. S. 471, 485, 88 L. Ed. 1399, 1407.

> "If the device of the respondent shows a substantially different mode of operation, even though the result of the operation of the machine remains the same, infriengement is avoided." —*Cimiotti Unhairing Co.* v. *American Fur Ref. Co.*, 198 U. S. 399, 414, 49 L. Ed. 1100, 1107.

3. There is not the same result. The records obtained are not the same. While the graphs obtained with the Echo-Meter, like those obtained with the apparatus of the

patent in suit, are used to determine fluid level, they are not the same as those obtained when using the apparatus of the patent. The differences were fully explained at the trial by Walker (R. 173, 182, 183, 212, 213), by Dr. Mackeown (R. 341-343, 358, 361, 362, 365, 415), and by Cornes (R. 308, 309). The graphs are different because of the differences in structure of the devices, particularly the use of a "non-directional" hot-wire microphone instead of a "directional" diaphragm. The sketch (Exhibit 29, R. 781), copied from a drawing Respondent Walker made on a blackboard while he was testifying (R. 240), shows the different kinds of records obtained by pressure and rarefaction waves with a "directional mike" or diaphragm, and a "non-directional mike," such as a hot-wire microphone (R. 212, 213). The diaphragm of the patent responds differently to positive and negative pulses, and because its "sensitivity of response" can be controlled (Patent 2,156,519, R. 593, Col. 1, *l.* 75), it makes a record on which each obstruction produces a "typical desired configuration" (*Idem*, R. 594, Col. 2, *l.* 24), so that one can "distinguish between echoes from different obstructions in the well" (*Idem*, R. 594, Col. 1, *ll.* 68, 69). All of the echoes recorded by Petitioner's device are alike and are not distinguishable due to their configuration (R. 477-479). Petitioner's microphone is not responsive to pressure (R. 341, 342, 343, 344, 358). It is responsive to movement or velocity of gas through it (R. 346, 658). A diaphragm in a vessel responds to a pressure change whether there is gas movement or not, but a hot-wire microphone does not do so (R. 360). Until Walker developed his "directional" diaphragm, he was "lost in a

maze."* We submit that there cannot be "substantially the same result" under the law where the differences are as well recognized as they are here.

In discussing the question of infringement, the Circuit Court of Appeals said (R. 1601, 1602):

> "Halliburton's argument of non-infringement is based primarily on the indisputable fact that it uses an electrical apparatus, whereas Walker's is mechanical. Where different means are used to accomplish the same end or to perform the same function, the question of infringement depends upon the mode of operation as well as on the sameness of the result. Cf. Walker on Patents (Deller's Ed.) Vol. 3, pp. 1745, 1750. While identity of result is of course not a sufficient test of infringement, nevertheless an infringing device, generally speaking, is one which 'does the same work in substantially the same way and accomplishes

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*Walker testified that in developing his device he discarded the idea of using a hot-wire microphone.

"Mr. Mattingly:

Q. Did you attempt to use the hot wire microphone?

A. No, I did not think it possessed the proper characteristics. It had no directional properties. * * *

Q. Does a hot wire microphone have the property of distinguishing between a constriction in the well and an enlargement in the well?

A. It does not. * * *

By the Court:

Q. A hot wire is not (satisfactory)?

A. It is not. * * *

Mr. Mattingly:

Q. Then these two types of obstructions, one of which constricts, and the other an enlargement; would be registered by the hot-wire microphone as though they were both constrictions, is that right?

A. That is right. * * * We have a large number of reflections from many of the wells, and if we are not able to identify those by the direction in which they are recorded, we are just lost in a maze; we don't know which is the fluid level." (R. 173-176).

substantially the same result.'* Walker on Patents (Deller's Ed.) Vol. 3, pp. 1707, 1751. The question is whether Halliburton's device is substantially the equivalent of Walker's."

Even if the Court were correct in finding that substantially the same result is obtained, the opinion is not sound. It holds that equivalency may exist between quite different devices if they have the same mode of operation, function and result. This is not the law. The pages of Deller's Edition of Walker on Patents, relied upon by the Court, do not support its ruling. On page 1707 of Walker, it is stated:

"Sec. 469. Tests of Equivalency. Identity of Result. Similarity or identity of result is not a sufficient test to show infringement, where there was a variation in the means used *(Stebler* v. *Porterville Citrus Assn.*, 248 Fed. 927, C. C. A. 9; *Conrader et al.* v. *Judson Governor Co.*, 238 Fed. 349) * * *."

On page 1745 of Walker it is stated:

"Sec. 495. Tests of Infringement of Machine or

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*The quotation is from the text of Walker on Patents, Deller's Ed., Vol. 3, page 1751. The full statement of the textbook is:

"But if the mode of operation is substantially the same, it does not follow that the charge of infringement must be affirmed. (*Diamond Drill & Mach. Co.* v. *Kelly Bros.*, 120 Fed. 289 (1903); *E. Van Noorden Co.* v. *Cheney Co.*, 75 Fed. (2d) 298, 300 (C. C. A. 1) 1934). In that case the question must be decided by some additional criterion. To establish a claim of infringement, the facts must be subjected to several successive tests. If the case fails on either of those tests, no further inquiry need be made; but an infringement cannot be affirmed till all those tests have been applied and have been withstood.

"The first of these is that which relates to identity of mode of operation. It is therefore important to know wherein this requisite identity consists. It may be said in general that an infringing device is one which does the same work in substantially the same way and accomplishes substantially the same result."

Manufacture. Comparative Results and Mode of Operation. The respective results of a machine or manufacture covered by the claim of a patent, and of a machine or manufacture alleged to infringe that claim, do not furnish a criterion by which to decide the question of infringement. [*Westinghouse* v. *Boyden Power-Brake Co.*, 170 U. S. 537 (1898).]" (Other cases cited.)

On page 1746 of Walker it is stated:

"Those results may be identical, while the mode of operation and the means by which the result is secured are different. (*Electric Signal Co.* v. *Hall Signal Co.*, 114 U. S. 87, 29 L. Ed. 96.)" (Other cases cited.)

"Any person may accomplish the result performed by a patented thing without infringing the patent, if he uses means substantially different from those of the patent. [*O'Reilly* v. *Morse*, 15 Howard (56 U. S. 62 (1853).]" (Other cases cited.)

"To hold the contrary of this rule would be to retard and not to promote the progress of the useful arts. [*Smith* v. *Downing*, 1 Fish. 64, Fed. Cas. No. 13,036 (1850).]"

The established rule is that to find equivalency there must be, in addition to identity of mode of operation and result, "substantially the same or similar means." This is the rule of *Westinghouse* v. *Boyden Power-Brake Co.*, 170 U. S. 537, 568, 42 L. Ed. 1136, 1147, in which this Court said:

"But even if it be conceded that the Boyden device corresponds with the letter of the Westinghouse claims, that does not settle conclusively the question of infringement. We have repeatedly held that a charge of infringement is sometimes made out, though the letter of the claims be avoided. *Union Paper Bag Mach-*

ine Co. v. *Murphy*, 97 U. S. 120 (24 L. Ed. 935); *Ives* v. *Hamilton*, 92 U. S. 431 (23 L. Ed. 496); *Morey* v. *Lockwood*, 75 U. S. 8 Wall. 230 (19 L. Ed. 339); *Elizabeth* v. *American Nicholson Pavement Company*, 97 U. S. 137 (24 L. Ed. 1005); *Sessions* v. *Romadka*, 145 U. S. 29 (36 L. Ed. 609); *Hoyt* v. *Horne*, 145 U. S. 302 (36 L. Ed. 713). The converse is equally true. The patentee may bring the defendant within the letter of his claims, but if the latter has so far changed the principle of the device that the claims of the patent literally construed, have ceased to represent his actual invention, he is as little subject to be adjudged an infringer as one who has violated the letter of a statute has to be convicted, when he has done nothing in conflict with its spirit and intent. 'An infringement,' says Mr. Justice Grier in *Burr* v. *Duryee*, 68 U. S. 1 Wall. 531, 572 (17 L. Ed. 650, 658), 'involves substantial identity, whether that identity be described by the terms, "same principle," same "*modus operandi*," or any other. * * * The argument used to show infringement assumes that every combination of devices in a machine which is used to produce the same effect is necessarily an equivalent for any other combination used for the same purpose. This is a flagrant abuse of the term equivalent.'

"We have no desire to qualify the repeated expressions of this court to the effect that where the invention is functional, and the defendant's device differs from that of the patentee only in form, or in a rearrangement of the same elements of a combination, he would be adjudged an infringer, even if, in certain particulars, his device be an improvement upon that of the patentee. But, after all, even if the patent for a machine be a pioneer, the alleged infringer must have done something more than reach the same result. He must have reached it by substantially the same or similar means, or the rule that the function of a machine cannot be patented is of no

practical value. To say that the patentee of a pioneer invention for a new mechanism is entitled to every mechanical device which produces the same result is to hold, in other language, that he is entitled to patent his function. Mere variations of form may be disregarded, but the substance of the invention must be there. As was said in *Burr* v. *Duryee*, 68 U. S. 1 Wall. 531, 573 (17 L. Ed. 650, 659), an infringement 'is a copy of the thing described in the specification of the patentee, either without variation, or with such variations as are consistent with its being in substance the same thing. If the invention of the patentee be a machine, it will be infringed by a machine which incorporates in its structure and operation the substance of the invention; that is, by an arrangement to mechanism which performs the same services or produces the same effect in the same way, or substantially the same way.' 'That two machines produce the same effect will not justify the assertion that they are substantially the same, or that the devices used by one are therefore mere equivalents for those of the other.'"

For the above reasons, we submit that the Circuit Court of Appeals erred in applying the doctrine of equivalents in the present case. But even if it were true that the means, operation and result of Petitioner's device are sufficiently close to those of the patent in suit to invoke the doctrine of equivalents under some circumstances, that doctrine is not applicable here because of the cancellation by Walker of a claim specific to Petitioner's accused device.

"It is a rule of patent construction consistently observed that a claim in a patent as allowed must be read and interpreted with reference to claims that have

been cancelled or rejected and the claims allowed cannot by construction be read to cover what was thus eliminated from the patent. (Cases cited.) The patentee may not, by resort to the doctrine of equivalents, give to an allowed claim a scope which it might have had without the amendments, the cancellation of which amounts to a disclaimer. *Smith* v. *Magic City Kennel Club*, 282 U. S. 784, 790, 75 L. Ed. 707, 712, 51 S. Ct. 291; *Weber Electric Co.* v. *E. H. Freeman Electric Co., supra*, (256 U. S. 677, 678, 65 L. Ed. 1167, 1168, 41 S. Ct. 600); *I. T. S. Rubber Co.* v. *Essex Rubber Co., supra*, (272 U. S. 444, 71 L. Ed. 343, 47 S. Ct. 136). The injurious consequences to the public and to inventors and patent applicants if patentees were thus permitted to revive cancelled or rejected claims and restore them to their patents are manifest." (Case cited.)

Schriber-Schroth Co. v. *Cleveland Trust Co.*, 311 U. S. 211, 220, 221, 85 L. Ed. 132, 137.

A patentee who has cancelled claims on particular subject matter has dedicated all rights which he might have had therein to the public. The patentee is "estopped to claim the benefit of his rejected claim or such a construction of his amended claim as would be equivalent thereto." *I. T. S. Rubber Co.* v. *Essex Rubber Co.*, 272 U. S. 429, 444, 71 L. Ed. 335, 343.

" * * * the rule is a rule of law, not merely a procedural rule of the Patent Office; it is an adaptation for patent cases of the basic doctrine of *res judicata*, estopped by judgment. Whether the second proceeding is an interference, a reissue, a suit to obtain letters patent, or any other type of action, the first proceeding is *res judicata* on all claims that were made or could have been made therein."

—*Daniels* v. *Coe*, 116 Fed. (2d) 941, 943, U. S. Court of Appeals for the District of Columbia. (Opinion by Associate Justice Vinson.)

Usually the "file wrapper estoppel" arises where a patentee first presents broad claims but later cancels them and accepts narrow ones from the Patent Office. But in *Schriber-Schroth* v. *Cleveland Trust Co.*, 311 U. S. 211, the doctrine was extended to cover a situation where *broad* claims were *allowed* by the Patent Office *after* rejection and cancellation of *narrow* claims, the Court stating:

> "True, the rule is most frequently invoked when the original and cancelled claim is broader than that allowed, but the rule and the reason for it are the same if the cancelled or rejected claim be narrower. (Cases cited.)
>
> " * * * it does not appear why the patent office allowed the broad claims after rejecting the narrower ones. But in any case the patentee, having acquiesced in their rejection, is no longer free to gain the supposed advantage of the rejected claims by a construction of the allowed claims as equivalent to them."
>
> —311 U. S. 211, 221, 85 L. Ed. 132, 138.

Therefore, the fact that the claims here in suit are broader than those previously rejected by the Patent Office is of no significance. The facts are not different from those in the *Schriber-Schroth* v. *Cleveland Trust Co.* case in that respect. The only difference here lies in the fact that Walker filed two applications for patent instead of one. The proceedings, upon which we rely chiefly to show the proper construction of the claims in suit, took place in the co-

pending application rather than the one which matured into the patent in suit. Walker conceived of the electrical system with a filter at about the same time that he conceived of the mechanical tuning device of the patent in suit.* The second application (Exhibit "L" on the electrical system) was filed Sept. 18, 1937 (R. 954), only eleven days after the filing of the application on the mechanical system. This is simply a case where two devices are thought of for accomplishing a desired result, and two applications are filed instead of one showing both embodiments.

Co-pending applications on related subject matter are, in effect, one stage in a continuous effort to obtain patent rights. (See discussion in the opinion by Associate Justice Vinson in *Summerhays* v. *Coe*, 105 Fed. (2d) 73, U. S. Court of Appeals for the District of Columbia.)

While no case has been found where this Court has considered the effect of a patentee voluntarily dividing an invention and filing two applications, or the effect upon a patent of proceedings in a co-pending application, similar situations have arisen in the lower courts, and the established rules, as stated in 48 Corpus Juris 218 are:

> "Where it is in evidence from the record of the patent office that a certain construction was there contemplated, and that the patent would not otherwise have been granted, that construction will be

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*"Q. When did you first conceive of the idea of using a filter in an amplifier circuit in a recording system which has a microphone recorder as shown in figure 5 of the drawing of application serial No. 164,534, offered as defendant's Exhibit L?

A. To the best of my knowledge that was about the time I started experimenting with acoustical tuning, which was during the early part of 1937." (Walker, R. 516, 517).

followed, and no objection can be made to the same construction on the ground that it is narrow, and will render the patent practically useless. But an interpretation by the patent authorities extending claims beyond their proper import is not binding on the public. * * *

"Where different applications by a patentee, and interference proceedings relating to the same subject matter are pending at the same time, all may be considered in determining the construction of the patent, as granted. * * *

"Where an inventor divides up his invention so as to present certain elements in different patents, he is thereby limited to a more strict and narrow construction than might have been otherwise necessary."

In *North American Chemical Co.* v. *Dexter*, 252 Fed. 148 (D.C. E.D. Wisc.), there was a situation similar to that in the present case. Three patents to Thoma and one to Arnold, all assigned to the plaintiff, had been pending in the Patent Office at the same time. The Court investigated all the proceedings in the Patent Office, saying:

"It is my judgment that the court is not only permitted, but is required, to consider the plaintiffs' claims, in view of the time and condition under which the four patents were brought out. They were practically concurrent and co-pending patents. Each one seeks to be contributory in a greater or less degree to the advance or change in the art which it is proposed to bring about. Whatever might have been the course to be pursued in interpreting or construing them, if they appear to be otherwise independent, the court is not at liberty, nor is it fair to the patentee, to ignore the express reference made in these several patent records to the pendency of the other patents

and the general purposes sought to be accomplished by the four patents as a whole. If the problem concerned the interpretation of land or other property grants, each containing references to the provisions or the purposes of the other, the court would not hesitate to fully refer to all of them for the purpose of ascertaining the true intent and the construction to be placed upon each, as well as upon all." 252 Fed. at 160, 161.

In *Tampax, Inc. v. Personal Products Corporation*, 123 Fed. (2d) 722 (C. C. A. 2), the patentee, Haas, had cancelled claims from a first filed application. At the same time that he cancelled the claims he filed a second application with an amended specification and attempted to recapture what he had abandoned in the first application. The claims, which issued in the second application, were held limited by the doctrine of file-wrapper estoppel and hence not infringed. The Court said:

"If Haas had secured the claim by the introduction of Figure Two and 'the second passage' into the first application, we cannot doubt that there would have been a 'file-wrapper estoppel.' *I. T. S. Rubber Co.* v. *Essex Rubber Co.*, 272 U. S. 429, 444, 47 S. Ct. 136, 71 L. Ed. 335; *Schriber-Schroth Co.* v. *Cleveland Trust Co.*, 311 U. S. 211, 221, 61 S. Ct. 235, 85 L. Ed. 132. He would have failed to get a claim based upon such 'convolutions' as were inevitable by forcing a long strip into a short core; and in its place he would have secured a claim into which he introduced the element that the 'convolutions' must be regular zigzags. Obviously it made no difference that this limitation was incorporated into the claim only by references; and it also made no difference that the claim was itself

transferred from the earlier application to another, co-pending with it. The doctrine of 'file-wrapper estoppel' depends upon the fact that, when an applicant has accepted the rejection of a broad claim he may not later assert that another claim, deliberately restricted to secure its allowance, is its equivalent; and that argument is as cogent when the claim is transplanted into a new application as when it is amended in the original." 123 Fed. (2d) at 723.

The facts in the *Tampax* case are, of course, different from those in the case at bar, but the case illustrates the importance of considering all the proceedings in the Patent Office relevant to the issuance of claims. If only the file wrapper of the patent in suit had been considered, no estoppel could have been shown.

In *Dodge Needle Co.* v. *Jones,* 159 Fed. 715 (C. C. A. 3), where the facts were similar to those in the *Tampax* case, the Court said:

"* * * the admissions and statements of the applicant in the former case are not irrelevant to the issues now under consideration, and we are not to be asked to close our eyes to evidential facts upon a ground so slight as the one suggested.

* * * * * * * * * * *

"Whatever view we take as to the question, whether or not the application of August, 1901, was a continuation of the original application of November, 1899, it seems clear that, after the withdrawal of claims 4 and 5 of the new application, the invention covered thereby was abandoned, and needles with headed pins, as described therein, became public property, and cannot now be monopolized by the appellants." 159 Fed. at 722, 725.

In *Lewis Blind-Stitch Mach. Co.* v. *Arbetter Felling Machine Co.*, 208 Fed. 992, D.C. N.D. Illinois E.D., (affirmed 219 Fed. 557) the facts were quite similar to those in the case at bar. Soon after Lewis filed the application which matured into the patent in suit, he filed another application called the "seam-application." (See 208 Fed. 1000). Both parties sought to construe the patent in suit by reference to the co-pending application. Judge Sanborn said:

> "Ordinarily a patent is to be construed by its own contents, its file wrapper, and a consideration of what there was left previously undiscovered in the particular art. The patent is the measure of the grant; other applications not usually being material to its construction. But the rule of construction adopted respecting several deeds or contracts between the same parties, made about the same time, relating to the same subject-matter, and as parts of the same transactions, undoubtedly applies to patents and patent applications. All may be resorted to on an inquiry as to the meaning of any one. The seam-applications, interference, and Lewis' patent application, related to the same subject-matter, and were all pending during substantially the same period. Therefore all may be looked into to determine the proper construction of the Lewis patent." 208 Fed. at 1001.

In the present case, it must be presumed that the Examiner of Division 5, who handled the application which matured into the patent in suit, regarded the claims as limited to an acoustical device. That is all that is disclosed in the patent. The Examiner cited no art on electrical filters or electrical tuning. Had he regarded such

systems as within the scope of the claims, it would have been his duty to consult with the Examiner in Division 42. The result would have been a citation of art on electrical tuning and the rejection of the claims on the basis that no invention was involved in incorporating a filter in the Lehr and Wyatt electrical recording system, just as the Examiner in Division 42 rejected (R. 1002) claim 15 specific to the electrical system on that basis when the question was presented to him in the co-pending application Exhibit L (R. 953).

Throughout the prosecution in the Patent Office, both in the application which matured into the patent in suit and in the co-pending application Exhibit L, Walker denied any intention of obtaining broad protection. Extensive arguments and representations were made to the Patent Office that the revised claims containing the new phrases "pressure responsive device," "means for tuning," "means to accent," "interference eliminating means," "resonance means," "natural acoustical period of oscillation," etc., limited the claims to the structure shown in the drawing and described in the specification (R. 1476, 1477, 1532, 1533, 1534). It was argued repeatedly that the gun of the Batcheller patent could not be used (R. 1468, 1469, 1487, 1499, 1513).

We submit that the Circuit Court of Appeals erred in ignoring the proceedings in the Patent Office, in both the application [Exhibit T (R. 1415)] which matured into the patent in suit, and the co-pending application [Exhibit L (R. 953)]. We submit that these applications show that

Petitioner's device does not infringe the claims in suit, because it uses a gun instead of a pressure impulse chamber, because it uses a hot-wire microphone instead of a pressure responsive diaphragm, and because it uses ordinary electrical equipment to amplify and filter the desired signals instead of an acoustical resonator. Respondents sought, but the Patent Office refused to grant a patent on such a device, and the patent in suit should not be construed to cover it.

Conclusion

Respondents seek a monopoly on apparatus entirely different than that disclosed or intended to be covered by the patent grant. In consideration for disclosure of a pressure impulse chamber and a mechanical system for recording pressure pulses made with it, they seek, by broad, indefinite and functional claims, to prevent Petitioner from using a gun with an old and well-known electrical system adapted to record echoes. They ask the Court to ignore such limitations as were imposed in the claims during the prosecution of the application in the Patent Office and to ignore negotiations in the co-pending application seeking claims specific to an electrical recording system like that used by Petitioner.

The decisions of this Court in *General Electric Co.* v. *Wabash Appliance Corp.*, 304 U. S. 364, and *Schriber-Schroth Co.* v. *Cleveland Trust Co.*, 311 U. S. 211, preclude the attainment of such a result.

The claims are not drawn in accordance with the requirements of R. S. Sec. 4888 and should be declared invalid because they are functional and broader than the invention disclosed. If valid, they should be held not infringed by apparatus differing from that disclosed in the patent in means, operation and result. The proceedings in the Patent Office show that a device like Petitioner's was expressly excluded from the patent grant.

The decision of the Circuit Court of Appeals should be reversed.

Respectfully submitted,

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